# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4/22/13
API#:	47-033-05675

Farm name: Hill, David W. and Suellen	o	perator We	Il No.: Koonse L	Jnit 2H	<i>,</i>
LOCATION: Elevation: 1,150'	Q	uadrangle: _	Salem		
District: Tenmile	C	ounty: Harri	son	-	<del></del>
Latitude: 15,543' Feet South of 39	Deg. 20	Min		c.	
Longitude 3.535' Feet West of 80	Deg30_	Min	. <u>00</u> Se	c.	
Company: Antero Resources Appalachian	1 Corp				
Address: 1625 17th Street		asing & ubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Denver, CO 80202		20" 94#	40'	40'	38 Cu. Ft. Class
Agent: CT Corporation System	13	3-3/8" 48#	460'	460'	639 Cu. Ft. Class
Inspector: Tristan Jenkins	9	-5/8" 36#	2,718'	2,718'	1107 Cu. Ft. Class /
Date Permit Issued: 10/26/2012	5	-1/2" 20#	14,567'	14,567'	3532 Cu. Ft. Class I
Date Well Work Commenced: 10/28/12					
Date Well Work Completed: 2/22/2013	2-	3/8" 4.7#	7497'		
Verbal Plugging: N/A					
Date Permission granted on: N/A					
Rotary Cable Rig					
Total Vertical Depth (ft): 7461' TVD (de	epest point d	rilled)			
Total Measured Depth (ft): 14,567' MD, 7	372' TVD (B	HL)			
Fresh Water Depth (ft.): 390'					
Salt Water Depth (ft.): 1797'					
Is coal being mined in area (N/Y)? N					
Coal Depths (ft.): 415', 487', 553', 660'					
Void(s) encountered (N/Y) Depth(s) N, N/	Ά				
OPEN FLOW DATA (If more than two producing Producing formation Marcellus  Gas: Initial open flow MCF/d Oil: Initial	Pay zone ial open flow	depth (ft) 7 VA	de additional d ,388 TVD (To	p)	•
	open flow N/A		1/d	Receive Office of Oil	
Time of open flow between initial and final Static rock Pressure 3800 psig (surface pr		Hours Hour	•e	Office of Oil	X Cas
Second producing formation	_ Pay zone de	<u></u>	5	MAY - 7	2013
Gas: Initial open flow MCF/d Oil: Initi	-		ol/d		
Final open flow MCF/d Final Time of open flow between initial and final	open flow	Bb	l/d		
Static rock Pressure psig (surface pro		Hours Hour	's		
			_		

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

 $\frac{S/2/13}{Date}$ 

Were core samples taken? Yes	No X Were cuttings caug	tht during drilling? Yes	<sub>No</sub> X
Were Electrical, Mechanical or Geophy.	sical logs recorded on this well? If yes, please is well on a maliti-well pad (Haymond NW Unit 2H API#47-033-05236). Please reference	Yes- CBL	
The second of the second secon	weii on a main-weii pad (Haymond NW Unit 2H API#47-033-05236). Please reference	the wireline logs submitted with Form WR-35 fo	r Haymond NW Unit 2H.
DETAILED GEOLOGICAL RECO	PUT THE FOLLOWING: 1). DETAIL G, PHYSICAL CHANGE, ETC. 2). THE WE DRD OF THE TOPS AND BOTTOMS O VELLBORE FROM SURFACE TO TOTAL	ELL LOG WHICH IS A S F ALL FORMATIONS	VETEMATIC
Perforated Intervals, Fracturing, or Stim	ulating:		
Perforations: 7971' - 14,504' MD	(1,224 holes)		
Frac'd w/ 9,000 gals 15% HCL A	cid, 173,332 bbls Slick Water carrying	963.800# 100 mesh	
3,761,100# 40/70 sand and 2,38			
	1,000 m 20,10 dana.		
	•		
Plug Back Details Including Plug Type a	and Depth(s): N/A		
Formations Encountered: Surface:	Top Depth /	Bottom I	Depth
Big Lime	est. 2238'	00001	
Big Injun	est. 2283'	2282'	
Gantz Sand	est. 2723'	2722' 2831'	
Fifty Foot Sandstone	est. 2832'	2930'	
Gordon	est. 2931'	3275'	
Fifth Sandstone	est. 3276'	3335'	
Bayard	est. 3336'	3845'	
Speechley	est. 3846'	4244'	
Balltown	est. 4245'	4698'	
Bradford	est. 4699'	5219'	
Benson	est. 5220'	5522'	
Alexander	est. 5523'	5564'	
Elk	est. 5665'	6888'	
Sycamore	6889'	7076'	
Middlesex	7077'	7222'	
Burket	7223'	7246'	
[ully	7247'	7336'	
lamilton	7337'	7387'	
Marcellus	7388'	श्रिक्ट्यांप्र Office of Oil	₩D &Gas

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4/22/13	
API#:	47-033-05674	

Harrison Min. 00			
	Se	c.	
_Min00	Se	3.	
	Jsed in Irilling	Left in well	Cement fill up Cu. Ft.
1#	40'	40'	60 Cu. Ft. Class
48#	452'	452'	628 Cu. Ft. Class
36#	2,733'	2,733'	1113 Cu. Ft. Class
20#	14,655'	14,655'	3552 Cu. Ft. Class
.7#	7497'		
(ft) 7,35 Bbl/d _Bbl/d	53' TVD (To I	ata on separate s op) Receive Office of Oil	ed
lours Hours		₩AY - ;	2013
t)			
Bbl/d	-		
.Ho t)l l B	urs Bbl/c	Bbl/d Bbl/d	Bbl/d Bbl/d

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

Date Date

33.05674

Were core samples taken? Yes	_ No_X Were cuttings caught	during drilling? YesNo_X
Were Electrical, Mechanical or Geophy	ysical logs recorded on this well? If yes, please lis	t Yes- CBL
This is a subsequent well. Antero only runs wireline logs on the first	t well on a multi-well pad (Haymond NW Unit 2H API#47-033-05236). Please reference to	he wireline logs submitted with Form WR-35 for Haymond NW Unit 2H.
FRACTURING OR STIMULATING DETAILED GEOLOGICAL REC	V PUT THE FOLLOWING: 1). DETAILS G, PHYSICAL CHANGE, ETC. 2). THE WEL ORD OF THE TOPS AND BOTTOMS OF WELLBORE FROM SURFACE TO TOTAL D	L LOG WHICH IS A SYSTEMATIC ALL FORMATIONS, INCLUDING
Perforated Intervals, Fracturing, or Stin	nulating:	
Perforations: 7867' - 14,590' MD	) ( 1,440 holes)	
Frac'd w/ 10,500 gals 15% HCL	Acid, 140,486 bbls Slick Water carrying	420,700# 100 mesh,
7,594,300# 40/70 sand and 1,38	39,500# 20/40 sand.	
Plug Back Details Including Plug Type	and Depth(s): N/A	
Formations Encountered: Surface:	Top Depth /	Bottom Depth
Big Lime	est. 2238'	<b>2282'</b>
Big Injun	est. 2283'	2722'
Gantz Sand	est. 2723'	2831'
Fifty Foot Sandstone	est. 2832'	2930'
Gordon	est. 2931'	3275'
Fifth Sandstone	est. 3276'	3335'
Bayard	est. 3336'	3845'
Speechley	est. 3846'	4244'
Balltown	est. 4245'	4698'
Bradford	est. 4699'	5219'
Benson	est. 5220'	5522'
Alexander	est. 5523'	<b>5564'</b>
Elk	est. 5665'	6223'
Rhinestreet	6224'	<b>6760'</b> .
Sycamore	6761'	6999'
Middlesex	7000'	7155'
Burket	7156'	7187'
Γully	7188'	7296'
Hamilton	7297'	7352'
Marcellus	7353'	7464' TVD
	Rece Office of	eived Oil & Gas

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4/22/13
API #:	47-033-05617

Farm name: Yeager, Charles E.	Operator Well	l No.: Asbury U	nit 1H	
LOCATION: Elevation: 1350'	Quadrangle: _	West Milford		
District: Union  Latitude: 5.099' Feet South of 39 Deg.  Longitude 9.704' Feet West of 80 Deg.		. <u>00</u> Se		
Company: Antero Resources Appalachian Corp	Casing &	Used in	Left in well	Cement fill
Address.	Tubing	drilling		up Cu. Ft.
Denver, CO 80202	20" 94#	40'	40'	51 Cu. Ft. Class A
Agent: CT Corporation System	13-3/8" 48#	352'	352'	489 Cu. Ft. Class A
Inspector: Tristan Jenkins	9-5/8" 36#	2,575'	2,575'	1048 Cu. Ft. Class A
Date Permit Issued: 6/6/2012	5-1/2" 20#	13,962'	13,962'	3404 Cu. Ft. Class H
Date Well Work Commenced: 10/17/12				
Date Well Work Completed: 2/10/13	2-3/8" 4.7#	7377'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary Cable Rig				
Total Vertical Depth (ft):7164' TVD (deepest point	nt drilled)			
Total Measured Depth (ft): 13,962' MD, 7105' TVD	(BHL)			
Fresh Water Depth (ft.): 103'				
Salt Water Depth (ft.): None reported off this pad				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 178', 257', 295'				1
Void(s) encountered (N/Y) Depth(s) N, N/A				
OPEN FLOW DATA (If more than two producing formation Producing formation Marcellus Pay z Gas: Initial open flow MCF/d Oil: Initial open flow Final open flow 9,672 MCF/d Final open flow Time of open flow between initial and final tests N/A Static rock Pressure 3600 psig (surface pressure) after the producing formation of pay z	cone depth (ft) 7 ow N/A P N/A Bb Hours	',118 TVD (To I/d	p) Office	heet) Received e of Oil & Gas
Second producing formationPay zor Gas: Initial open flowMCF/d Oil: Initial open flowMCF/d Final open flow Time of open flow between initial and final tests Static rock Pressure psig (surface pressure) aff	owBbl Hours			

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

Were core samples taken? Yes	No_X Were cutti	ings caught during drilling? Yes	No_X
Were Electrical, Mechanical or Geophys	sical logs recorded on this well? If yes	s, please list Yes- CBL	
This is a subsequent well. Antero only runs wireline logs on the fi	rst well on a multi-well pad (Stutler Unit 1H AP#47-033-05586)	. Please reference the wireline logs submitted with Form WF	t-35 for Stutler Unit 1H.
NOTE: IN THE AREA BELOW FRACTURING OR STIMULATING DETAILED GEOLOGICAL RECO COAL ENCOUNTERED BY THE W	E, PHYSICAL CHANGE, ETC. 2). T DRD OF THE TOPS AND BOTT	THE WELL LOG WHICH IS A S OMS OF ALL FORMATIONS.	SYSTEMATIC
Perforated Intervals, Fracturing, or Stimu	ulating:		
Perforations: 7395' - 13,897' MD	<del></del>		
Frac'd w/ 8,500 gals 15% HCL A	cid, 168,442 bbls Slick Water o	arrying 1,008,436# 100 mesh	١,
3,877,566# 40/70 sand and 2,230	0,535# 20/40 sand.		
Dha Dad Dataila Inchedia a Dhe T	10.40		
Plug Back Details Including Plug Type a	and Depth(s): N/A		
Formations Encountered:	Top Depth	/ Bottom	Danth
Surface:	100 2000	Bottom	Debin
Big Lime	est. 1714'	1826'	
Big Injun	est. 1827'	2099'	
Gantz Sand	est. 2100'	2223'	
Fifty Foot Sandstone	est. 2224'	2343'	
Gordon	est. 2344'	2624'	
Fifth Sandstone	est. 2625'	2673'	
Bayard	est. 2674'	3325'	
Speechley	est. 3326'	3531'	
Balltown	est. 3532'	4081'	1
Bradford	est. 4082'	4652'	
Benson	est. 4653'	4843'	
Alexander	est. 4844'	5035	ı
ik .	est. 5036'	5631'	
Rhinestreet	5632'	6387	
Sycamore	6388'	6896'	
Burket	6897'	6923	
fully	6924'	7045	
lamilton	7046'	7117	
Marcellus	7118'	Receiv <b>/£164</b>	
		Office of Oil & G	

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4/22/13	
API#:	47-033-05618	
	Oc. 6	

Farm name: Yeager, Charles E. Operator Well No .: Asbury Unit 2H LOCATION: Elevation: 1350' Quadrangle: West Milford District: Union County: Harrison Latitude: 5,094' Feet South of 39 Deg. 15 Min. 00 Sec. Longitude 9,691' Feet West of 80 Deg. 27 Min. 30 Sec.

Company. Antero Resources Appalachian Corp

Company: Antero Resources Appalachian Corp				
Address: 1625 17th Street	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Denver, CO 80202	20" 94#	40'	40'	38 Cu. Ft. Class A
Agent: CT Corporation System	13-3/8" 48#	339'	339'	471 Cu. Ft. Class A
Inspector: Tristan Jenkins	9-5/8" 36#	2,562'	2,562'	1043 Cu. Ft. Class A
Date Permit Issued: 6/6/2012	5-1/2" 20#	13,970'	13,970'	3416 Cu. Ft. Class H
Date Well Work Commenced: 10/17/2012				
Date Well Work Completed: 2/4/2013	2-3/8" 4.7#	7214'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary Cable Rig				
Total Vertical Depth (ft):7178' TVD (deepest point	nt drilled)			
Total Measured Depth (ft): 13,970' MD, 7117' TVD	(BHL)			
Fresh Water Depth (ft.): 137'				
Salt Water Depth (ft.): None reported off this pad				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 178', 257', 295'				
Void(s) encountered (N/Y) Depth(s) N, N/A				

Producing formation Marcellus		se include additional data on separate sheet) oth (ft)7,134 TVD (Top)
Gas: Initial open flow M		
	CF/d Final open flow N/A	
Time of open flow between i	nitial and final tests N/A	Hours
Static rock Pressure 3600 p	sig (surface pressure) after	Hours
Second producing formation	Pay zone depth	ı (ft)
Gas: Initial open flowM	CF/d Oil: Initial open flow	Bbl/d
Final open flowM	CF/d Final open flow	Bbl/d
Time of open flow between i	nitial and final tests	Hours
Static rock Pressurep	sig (surface pressure) after	— Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature '

Were core samples taken? Yes	No X Were cuttings c	aught during drilling? YesNo_X
Were Electrical, Mechanical or Geophys	ical logs recorded on this well? If yes, plea	ore list Yes- CBL
This is a subsequent well. Antero only runs wireline logs on the fir	st well on a multi-well pad (Stutler Unit 1H AP#47-033-05586). Please	reference the wireline logs submitted with Form WR-35 for Stutter Unit 1H.
FRACTURING OR STIMULATING DETAILED GEOLOGICAL RECO	, PHYSICAL CHANGE, ETC. 2). THE	AILS OF PERFORATED INTERVALS, WELL LOG WHICH IS A SYSTEMATIC OF ALL FORMATIONS, INCLUDING AL DEPTH.
Perforated Intervals, Fracturing, or Stimu	llating:	
Perforations: 7329' - 13,905' MD (	(1,368 holes)	
Frac'd w/ 10,076 gals 15% HCL A	cid, 134,411 bbls Slick Water carr	ying 667,538# 100 mesh,
2,563,773# 40/70 sand and 1,529	,492# 20/40 sand.	
Plug Back Details Including Plug Type at	nd Denth(s): ALA	
	Sopulos. N/A	
Formations Encountered:	Top Depth /	Bottom Depth
Surface:		
Big Lime	est. 1714'	1826'
Big Injun	est. 1827'	2099'
Gantz Sand	est. 2100'	2223'
Fifty Foot Sandstone	est. 2224'	2343'
Gordon	est. 2344'	2624'
ifth Sandstone	est. 2625'	2673'
Bayard	est. 2674'	3325'
Speechley	est. 3326'	3531'
Balltown	est. 3532'	4081'
Bradford	est. 4082'	4652'
Benson	est. 4653'	4843'
Mexander	est. 4844'	5035'
ilk	est. 5036'	6918'
Burket	6919'	6947'
'ully	6948'	7057'
lamilton	7058'	7133'
Marcellus	7134'	
· · · · · · · · · · · · · · · · · · ·	7134	7178' TVD
		Office of Oil & Gas MAY 2013
		2013

### State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4/18/13
API#:	47-017-06076

Farm name: Erwin, John F.	_ Operator Wel	l No.: Erwin Uni	t 1H	
LOCATION: Elevation: 1,223'	_ Quadrangle: _	New Milton 7.5'		
District: New Milton	_ County: Dodd	ridae		
Latitude: 242 Feet South of 39 Deg	. 12 Min		 c.	<del></del>
Longitude 10,961' Feet West of 80 De	g. 42 Min			
Company: Antero Resources Appalachian Corp				
Address: 1625 17th Street	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Denver, CO 80202	20" 94#	40'	40'	38 Cu. Ft. Class A
Agent: CT Corporation System	13-3/8" 48#	1258'	1258'	1748 Cu. Ft. Class A
Inspector: Douglas Newlon	9-5/8" 36#	2,638'	2,638'	1074 Cu. Ft. Class A
Date Permit Issued: 4/2/2012	5-1/2" 20#	16,914'	16,914'	4196 Cu. Ft. Class H
Date Well Work Commenced: 6/16/12				
Date Well Work Completed: 2/14/2013	2-3/8" 4.7#	7395'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary Cable Rig		<del></del>		
Total Vertical Depth (ft): 7278' TVD	<del>                                     </del>		<del> </del>	<del>                                     </del>
Total Measured Depth (ft): 16,914' MD			<del> </del>	<del> </del>
Fresh Water Depth (ft.): 233'				
Salt Water Depth (ft.): 1265', 1939'	-			
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): None Reported				
Void(s) encountered (N/Y) Depth(s) N, N/A				
OPEN FLOW DATA (If more than two producing formation Producing formation Marcellus Pay Gas: Initial open flow MCF/d Oil: Initial open flow Initial open flow MCF/d Final open flow Time of open flow between initial and final tests N/A Static rock Pressure 3950 psig (surface pressure) a	zone depth (ft) 7 flow N/A Bbl w N/A Bbl Hours	:119' TVD (To ol/d //d :s	ata on separate s  p)  Received ice of Oil & Ga	ŕ
Second producing formation Pay zo	- ' /—	———	ice of Oil & Ga	<b>as</b>
Gas: Initial open flow MCF/d Oil: Initial open flow MCF/d Final open flow		1/d i.i.	AY - 7 2013	
Final open flow MCF/d Final open flow Time of open flow between initial and final tests		να <sup>:γι</sup>	Di = 7 2013	
Static rock Pressurepsig (surface pressure) a		s		
certify under penalty of law that I have personally examined all the attachments and that, based on my inquiry of those indihat the information is true, accurate, and complete	and am familiar	with the inform	nation submitted e for obtaining t	on this documen he information I l
Signature	- Kr		Date	

Were core samples taken? Yes	_NoX We	ere cuttings caught during drilling? Yes	_ No X
Were Electrical, Mechanical or Geoph This is a subsequent well. Antero only runs wireline logs on the t	tysical logs recorded on this well	? If yes, please list Yes- CBL 017-06082). Please reference the whreline logs submitted with Form WR-35 for	
NOTE: IN THE AREA BELOVERSELOW	W PUT THE FOLLOWING IG, PHYSICAL CHANGE, ET CORD OF THE TOPS AND	: 1). DETAILS OF PERFORATED IN C. 2). THE WELL LOG WHICH IS A SY BOTTOMS OF ALL FORMATIONS II	NTERVALS,
Perforated Intervals, Fracturing, or Stir	mulating:		
Perforations: 7,529' - 16,849' M	D ( 1,944 holes)		
Frac'd w/ 14,000 gals 15% HCL	Acid, 202,083 bbls Slick \	Water carrying 964,700# 100 mesh,	
3,836,500# 40/70 sand and 2,1			
Plug Back Details Including Plug Type	e and Depth(s): N/A		
Formations Encountered: Surface:	Top Depth	/ Bottom De	<u>epth</u>
Big Lime	est.2251'	2343'	
Big Injun	est. 2344'	2750'	
Fifty Foot Sandstone	est. 2751'	2948'	
Gordon	est. 2949'	3306'	
Fifth Sandstone Balltown	est. 3307'	4131'	
Bradford	est. 4132'	4771'	
Benson	est. 4772'	5230'	
Alexander	est. 5231' est. 5488'	5487'	
Sycamore	6720'	6719'	
, Middlesex	6878'	6877' 7013'	
Burket	7014'	7013 7047'	
Γully	7048'	7118'	
Marcellus	7119'	7278'	TVD
		Received Office of Oil & G	ias
		MAY - > 2013	



# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4/11/13
API#:	47-017-06081

Farm name: Erwin, John F.	_ Operator Wel	l No.: Toms For	k Unit 1H	
LOCATION: Elevation: 1,223'	_ Quadrangle: _	New Milton 7.5'		
District: New Milton	County: Dodd	ridae		-
Latitude: 222 Feet South of 39 Deg			<b>c</b> .	
Longitude 10,963' Feet West of 80 Deg				
Company: Antero Resources Appalachian Corp				
Address: 1625 17th Street	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Denver, CO 80202	20" 94#	40'	40'	38 Cu. Ft. Class A
Agent: CT Corporation System	13-3/8" 48#	840'	840'	1167 Cu. Ft. Class A
Inspector: Douglas Newlon	9-5/8" 36#	2,754	2,754'	1725 Cu. Ft. Class A
Date Permit Issued: 6/6/2012	5-1/2" 20#	16,113'	16,113'	3941 Cu. Ft. Class H
Date Well Work Commenced: 6/25/12				
Date Well Work Completed: 1/25/2013	Cement Plug		Set @ 1700'	491 Cu. Ft.
Verbal Plugging: N/A				
Date Permission granted on: N/A	2-3/8" 4.7#		7257'	
Rotary Cable Rig				
Total Vertical Depth (ft): 7270' TVD	<del></del>			
Total Measured Depth (ft): 16,113' MD				
Fresh Water Depth (ft.): 233'				
Salt Water Depth (ft.): 1900'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): None Reported				
Void(s) encountered (N/Y) Depth(s) N, N/A				
OPEN FLOW DATA (If more than two producing formation Producing formation Marcellus Pay Gas: Initial open flow MCF/d Oil: Initial open flow 4,393 MCF/d Final open flow Time of open flow between initial and final tests N/A	zone depth (ft) 7 low N/A Bb w N/A Bbl	<u>,134' TV</u> D (To l/d	ata on separate sh	eet)
Static rock Pressure 3950 psig (surface pressure) at	, <u> </u>	S	Receiv Office of Oi	ed   & Gas
Second producing formation Pay zo Gas: Initial open flow MCF/d Oil: Initial open f Final open flow MCF/d Final open flow Time of open flow between initial and final tests Static rock Pressure psig (surface pressure) at	wBbl Hours	/d	MAY - 7	
I certify under penalty of law that I have personally examined all the attachments and that, based on my inquiry of those indithat the information is true, accurate, and complete.	and am familiar viduals immedia	with the inforn	nation submitted of the for obtaining the	on this document and e information I belie

Were core samples taken? Yes	No_X Were	cuttings caught during drilling? Yes_	No_X
Were Electrical, Mechanical or Geophys	sical logs recorded on this well? If	fyes, please list Yes- CBL	
This is a subsequent well. Antero only runs wireline logs on the first	well on a multi-well pad (Tom's Fork Unit 2H API#47-017-0	6082). Please reference the wireline logs submitted with Form W	/R-35 for Tom's Fork Unit 2H.
NOTE: 1			
NOTE: IN THE AREA BELOW	PUT THE FOLLOWING:	i). DETAILS OF PERFORATE	D INTERVALS
FRACTURING OR STIMULATING	PD OF THE TOPS AND DO	2). THE WELL LOG WHICH IS	A SYSTEMATIC
DETAILED GEOLOGICAL RECO COAL ENCOUNTERED BY THE W	ELLBORE FROM SURFACE	TO TOTAL DEPTH.	IS, INCLUDING
Perforated Intervals, Fracturing, or Stime	ulating:		
Perforations: 7291' - 16,047' MD	( 1,800 holes)		
Frac'd w/ 13,000 gals 15% HCL A	Acid, 186,038 bbls Slick Wa	ter carrying 888,089# 100 me	sh,
3,564,200# 40/70 sand and 1,979	9,200# 20/40 sand.		
Plug Back Details Including Plug Type a	nd Donth(s): ALLA		
	na Depth(s). N/A		
Formations Encountered:	Top Depth	/ Potto	om Depth
Surface:		Bollo	in Depth
Big Lime	est.2251'	234	13'
Big Injun	est. 2344'	275	
Fifty Foot Sandstone	est. 2751'	294	
Gordon	est. 2949'	330	
Fifth Sandstone	est. 3307'		31'
Balltown	est. 4132'	47	71'
Bradford -	est. 4772'	52	30'
Benson	est. 5231'	54	87'
Alexander	est. 5488'	67	23'
Sycamore	6724'	68	84'
Viiddlesex	6885'	70	)27'
Burket 	7028'	70	054'
Tully	7055'	7:	133'
Marcellus	7134'	72	270' TVD

MAY - 7 2013

Received Office of Oil & Gas

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4/18/13
API#:	47-017-06082

ATION: Elevation: 1,223'	_ Quadrangle: N	New Milton 7.5'		
District: New Milton	_ County: Dodd			
Latitude: 212' Feet South of 39 Deg				<del></del>
	, <u>42</u> Min.			
Company: Antero Resources Appalachian Corp				
Address: 1625 17th Street	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Denver, CO 80202	20" 94#	40'	40'	38 Cu. Ft. Class A
Agent: CT Corporation System	13-3/8" 48#	716'	716'	995 Cu. Ft. Class A
Inspector: Douglas Newlon	9-5/8" 36#	2640'	2640'	1075 Cu. Ft. Class A
Date Permit Issued: 6/6/2012	5-1/2" 20#	16,077'	16,077'	3965 Cu. Ft. Class H
Date Well Work Commenced: 6/26/12				
Date Well Work Completed: 1/18/2013	2-3/8" 4.7#	7366'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary Cable Rig				
Total Vertical Depth (ft): 7299' TVD				
Total Measured Depth (ft): 16,077' MD				
Fresh Water Depth (ft.): 233'				
Salt Water Depth (ft.): 1900'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): None Reported				
Void(s) encountered (N/Y) Depth(s) N, N/A		-		
EN FLOW DATA (If more than two producing formati	zone depth (ft) 7		p)	·
Final open flow 7,603 MCF/d Final open flow Time of open flow between initial and final tests N/A	w N/A Bb	l/d	Received Office of Oil 8	Gas
Static rock Pressure 3950 psig (surface pressure) a		s	MAY - 7	2013
	one depth (ft)		14171	
Gas: Initial open flow MCF/d Oil: Initial open f	flow Bb	ol/d		

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature /

Date | 1

Were core samples taken? Yes	No X Were	cuttings caught during drilling	? Yes_X No
Were Electrical, Mechanical or Geophys Gamma Ray, Gamma Ray/Dual Laterlog	sical logs recorded on this well?	If yes, please list Yes- CBL, Photo	Density/Compensated Neutron/
NOTE: IN THE AREA BELOW FRACTURING OR STIMULATING DETAILED GEOLOGICAL RECO COAL ENCOUNTERED BY THE W	G, PHYSICAL CHANGE, ETC ORD OF THE TOPS AND B	. 2). THE WELL LOG WHIC OTTOMS OF ALL FORM	CH IS A SYSTEMATIC
Perforated Intervals, Fracturing, or Stim	ulating:		
Perforations: 7365' - 15,850' MD	(1,800 holes)		
Frac'd w/ 13,000 gals 15% HCL /	Acid, 187,523 bbls Slick W	ater carrying 823,600# 10	00 mesh,
3,326,400# 40/70 sand and 1,874	4,600# 20/40 sand.		
Plug Back Details Including Plug Type a	and Depth(s): N/A		
Formations Encountered: Surface:	Top Depth	1	Bottom Depth
Big Lime	2251'		2343'
Big Injun	2344'		2750'
Fifty Foot Sandstone	2751'		2948'
Gordon	2949'		3306'
Fifth Sandstone	3307'		4131'
Balltown	4132'		4771'
Bradford	4772'		5230'
Benson	5231'		5487'
Alexander	5488'		6736'
.Sycamore	6737'		6895'
Middlesex	6896'		7043'
Burket	7044'		7068'
Tully	7069'		7143'
Marcellus	7144'		7299' TVD

Final open flow

Static rock Pressure

MCF/d

\_\_\_\_\_psig (surface pressure) after

Time of open flow between initial and final tests\_

## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4/22/13
API#:	47-017-06126

Farm name: Erwin, John Operator Well No.: Erwin Unit 2HA LOCATION: Elevation: 1,223' Quadrangle: New Milton 7.5' District: New Milton County: Doddridge Latitude: 232' Feet South of 39 Deg. 12 Min. 30 Sec. Longitude 10,962' Feet West of 80 Deg. 42 Min. 30 Sec. Antero Resources Appalachian Corp Company: Casing & Used in Left in well Cement fill 1625 17th Street Address: **Tubing** drilling up Cu. Ft. Denver, CO 80202 20" 94# 40' 40' 38 Cu. Ft. Class A CT Corporation System Agent: 13-3/8" 48# 421' 421' 585 Cu. Ft. Class A Inspector: Douglas Newlon 9-5/8" 36# 2,549' 2,549' 1038 Cu. Ft. Class A Date Permit Issued: 8/29/2012 5-1/2" 20# 16.303' 16.303 4055 Cu. Ft. Class H Date Well Work Commenced: 10/8/12 2/4/2013 Date Well Work Completed: 2-3/8" 4.7# 7319' N/A Verbal Plugging: N/A Date Permission granted on: Rotary 🗸 Cable Rig Total Vertical Depth (ft):7269' TVD Total Measured Depth (ft): 16,303' MD Fresh Water Depth (ft.): 233' Salt Water Depth (ft.): 1804 Is coal being mined in area (N/Y)? Coal Depths (ft.): None Reported Void(s) encountered (N/Y) Depth(s) N, N/A OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet) **Producing formation Marcellus** Pay zone depth (ft) 7,128' TVD (Top) Received Office of Oil & Gas Gas: Initial open flow ----MCF/d Oil: Initial open flow N/A В Final open flow 5,933 MCF/d Final open flow N/A Bbl/d Time of open flow between initial and final tests N/A Hours MAY - 7 2013 Static rock Pressure 3950 \_psig (surface pressure) after \_\_\_\_ Hours Second producing formation Pay zone depth (ft) Gas: Initial open flow MCF/d Oil: Initial open flow Bbl/d

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Final open flow

Signature

Bbl/d

Hours

Hours

Were core samples taken?	Yes	No_X	Were	cuttings caught during of	drilling? Yes	No_X
Were Electrical, Mechanica	l or Geor	ohysical logs red	corded on this well? If	f yes, please list Yes- (	CBL	
This is a subsequent well. Antoro only runs wi	reline logs on th	ne first well on a multi-well p	ped (Tom's Fork Unit 2H API#47-017-0	6082). Please reference the wireline logs	s submitted with Form WR-35	for Tom's Fork Unit 2H.
NOTE: IN THE AREA FRACTURING OR STIN DETAILED GEOLOGIC COAL ENCOUNTERED	CAL RE	CORD OF T	AL CHANGE, ETC. HE TOPS AND RO	2). THE WELL LOG	ANTERCATE TO A CO	* * * * * * * * * * * * * * * * * * * *
Perforated Intervals, Fractur	ing, or S	timulating:				
Perforations: 7384' - 16	,237' N	1D ( 1,872 ho	oles)			
Frac'd w/ 13,000 gals 1	5% HC	L Acid, 192,	759 bbls Slick Wa	ter carrying 950,50	0# 100 mesh.	
3,601,500# 40/70 sand	and 1,	807,400# 20	/40 sand.			
Plug Back Details Including	Plug Tyj	pe and Depth(s)	: N/A			
Formations Encountered: Surface:			Top Depth	I	Bottom I	Depth
Big Lime			2254			
Big Injun			est.2251'		2343'	
Fifty Foot Sandstone			est. 2344' est. 2751'		2750'	
Gordon			est. 2731 est. 2949'		2948'	
Fifth Sandstone			est. 3307'		3306'	
Balltown			est. 4132'		4131'	
Bradford			est. 4772'		4771'	
Benson			est. 5231'		5230'	
Alexander			est. 5488'		5487'	
Sycamore			6730'		6729'	
Middlesex			6882'		6881'	
Burket					7024'	
Fully			7025'		7056' Received	
Marcellus			7057' 7128'	C	7056' Received Mice of Oil & G 7269	as 'TVD
					MAY - 7 201	3

#### State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	2-15-13
API #:	47-001-103128
	1-03128

Farm name: EVERSON, BERNARD & MACEL Operator Well No.: B823 LOCATION: Elevation: 1976 Quadrangle: BELINGTON 7 1/2 District: BARKER County: BARBOUR Latitude: 9500 Feet South of 39 Deg. 05 Min. 00 Sec. Longitude 5150 Feet West of 79 Deg. 57 Min. 30 Sec.

Company: BERRY ENERGY, INC				
Address: 310 STILE STREET	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
CLARKSBURG, WV 26302	9 5/8	48	48	CONDUCTOR
Agent: DAVID BERRY	7	888	888	TO SURFACE
Inspector: JOE McCOURT	4 1/2	5272.05	5272.05	200 SKS
Date Permit Issued: 04/21/2010				
Date Well Work Commenced: 01/25/12				
Date Well Work Completed: 01/31/12				
Verbal Plugging:			ECEIVED	
Date Permission granted on:		_	e of Oil & (	4
Rotary Cable Rig				
Total Vertical Depth (ft): 5438 (LOG TD)		N	AR 25 2013	
Total Measured Depth (ft): 5438 (LOG TD)		140/1		
Fresh Water Depth (ft.): 125, 235, 1309			Departmen	
Salt Water Depth (ft.): NONE		ELIMITOLI	nental Pro	lection
Is coal being mined in area (N/Y)? NONE				
Coal Depths (ft.): 210, 295, 605, 1142				
Void(s) encountered (N/Y) Depth(s) NONE		1		

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet) Producing formation HAVERTY, BENSON Pay zone depth (ft) 5113, 3910 Gas: Initial open flow ODOR MCF/d Oil: Initial open flow Bbl/d Final open flow 360 Final open flow Bbl/d MCF/d Time of open flow between initial and final tests 4 Hours Static rock Pressure 1100 psig (surface pressure) after 72 Second producing formation 5th sand Pay zone depth (ft) <sup>2428</sup> MCF/d Oil: Initial open flow Gas: Initial open flow\_\_\_\_ Bbl/d Final open flow Bbl/d Final open flow MCF/d Time of open flow between initial and final tests\_ Static rock Pressure psig (surface pressure) after Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Were core samples ta	ken? Yes	_ No_X	Were cuttings caught during drilling? Yes X No
Were Electrical, Mec	hanical or Geoph	ysical logs recorded on this w	vell? If yes, please list PLATFORM EXPRESS
FRACTURING OF DETAILED GEOI	R STIMULATIN LOGICAL REC ERED BY THE	G, PHYSICAL CHANGE, ORD OF THE TOPS AN WELLBORE FROM SURF	NG: 1). DETAILS OF PERFORATED INTERVALS, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC ID BOTTOMS OF ALL FORMATIONS, INCLUDING FACE TO TOTAL DEPTH.
Perforations: Have	erty 14 hole (.3	39) 5113-5152, Benson	14 holes (.39) 3910-3933, 5th Sand 14 holes (.39)
2428-2442,5th sa			(30)
	<u></u>	<del> </del>	sand BD 2790#, ATP 3528#, 1072 Bbls foam
			0#, ATP 3094#, 880 Bbls foam
5th sand - 500 gal	15% HCl 4,90	0#80/100 sand, 39,700#	# 40/70 sand BD 5081#, ATP 3305#, 923 Bbls foam
5th sand- 500 gal	15% HCl 42,1	00# 20/40 sand, BD 18	83#, ATP 2826#, 803 Bbls foam
Plug Back Details Inc	luding Plug Type	and Depth(s):	
Formations Encounte Surface:	ered:	Top Depth	
Sand and Shale	0 / 334		RECEIVED
Sandstone	334 / 358		Office of Oil & Gas
Sand and Shale	358 / 742		MAR <b>2 5</b> 2013
Red Rock	742 / 980		
Sand and Shale	980 / 1260	)	WV Department of
Big Lime	1260 / 1500	0	Environmental Protection
Sand and Shale	1500 / 211	8	
shale	2118 / 221	0	
5th Sand	2210 / 231	0	
Sand and Shale	2310 / 3910	)	
Benson	3910 / 3920	)	
Sand and Shale	3920 / 5273		
Haverty	5273 / 5333		
Shale	5333 / 5438	Logger TD	

### State of West Virginia Department of Environmental Protection Office of Oil and Gas

ORIGINALLY MAILED: 6/1/10

Well Operator's Report of Well Work

Farm name: Bruce Jett		Oper	ator Well No.:	Jett #1	
LOCATION: Elevation: 878		-	rangle:		
		•	<u> </u>		•
District: Washington				Calhoun	
Latitude: 8325 Feet South of 38	<u>B_</u> Deg	45	<u> </u>	Sec.	
Longitude 4200 Feet West of 8	1Deg		7Min3-	Sec.	
Company: Boggs Natural Gas, FLP					
Company:		_	1	1	
• •	Casing		Used in	Left in well	Cement fill
4.11	Tubing		drilling	ļ	up Cu. Ft.
Address: 1248 Charleston Road	13-7/8	<u>s</u>		ļ	
Spencer, WV 25276	0.57	· II	F037	F011	
Agent: Harry C. Boggs	9-5/8	3	591'	591'	
Inspector:	711		10/01	10701	
Date Permit Issued: 6/9/2006	7"		1942'	1942	Surface
Date Well Work Commenced: 5/27/08				ļ	
Date Well Work Completed: 6/01/08				·	
Verbal Plugging:					
Date Permission granted on:					
Rotary X Cable Rig			<u>,                                      </u>		
Total Depth (feet): 5485					
Fresh Water Depth (ft.): 1115					
<u> </u>					
Salt Water Depth (ft.): 1735					
Is coal being mined in area (N/Y)? NO					
Coal Depths (ft.):					
OPEN FLOW DATA					
	_	_		2222	
Producing formation Shale					
Gas: Initial open flowMCF/d Oil:	Initial of	pen fl	ow]	Bb1/d	
Final open flowMCF/d Fi	inal oper	ı flov	/B	bl/d	
Time of open flow between initial and f	final tests	s	Hou	rs	
Static rock Pressure psig (surface	e pressu	re) af	ter Ho	urs	Received
	-				Office of Oil & Gas
Second producing formation	Pa	ay zoi	ne depth (ft)		
Gas: Initial open flow MCF/d Oil:		-	• • • —	Bbl/d	1 0 2013
•	inal oper	•		361/d	JUN 1 0 2013
Time of open flow between initial and i					
Static rock Pressure psig (surface				ours	
psig (surface	e pressu	ie) ai	ieino	uis	•
NOTE: ON BACK OF THIS FORM PUT THE I		TNIG.	1) DETAILS	OF DEDEOD AT	ren
INTERVALS, FRACTURING OR STIMULATIN	IC PHY	מזרא. מזרא	I CHANGE I	TC 2) THE W	תבו ז
LOG WHICH IS A SYSTEMATIC DETAILED					
INCLUDING COAL ENCOUNTERED BY THE				Y WITE LOUMIN	TIONS,
The state of the s		, <b></b> .			
Signed: Boggs Natural 92s,	FLP		-		
By: Juy 5 00	78		<del></del>		
Date: 4/27/10	UU				

### FORMATIONS:

0 - 60	Soil & Sandy Shale
60 - 200	Sand & Shale
200 - 230	Sand
230 - 500	SAnd & Shale
500 - 600	Red Rock & Shale
600 - 1100	Sand & Shale
1100 - 1160	Salt Sand (Wet)
1160 - 1700	Sand & Shale
1700 - 1780	Salt Sand (Wet $1-1/2$ " Salt water)
1780 - 1906	Sand
1906 - 1936	Little Lime
1936 - 1946	Red Rock
1946 - 1980	Big Lime
1980 - 2450	Sand & Shale
2450 - 5485	Devonian Shale

## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE: 11-12-2012 API #: 47-1502877

Farm name: King, Charles P.	_ Operator We			
LOCATION: Elevation: 972	_ Quadrangle:	Elkhurst		
District: Union  Latitude: 0 Feet South of 38 Deg  Longitude 0 Feet West of 81 Deg		ı. <u>37.3</u> Se		
Company: Rouzer Oil Company				
Address: P.O. Box 987 Spencer, WV 2527	u ruomg	Used in drilling	Left in well	Cement fill up Cu. Ft.
	9 5/8"	351'	351'	110
Agent: James Hildreth	7"	1527'	1527'	247
Inspector: Ed Gainer	4 1/2"	1929'	1929'	70
Date Permit Issued: 12-05-2011			<u> </u>	
Date Well Work Commenced: 06-13-2012				
Date Well Work Completed: 04-22-2013				
Verbal Plugging:	ļ			
Date Permission granted on:		<u> </u>		
Rotary Cable Rig				
Total Vertical Depth (ft): 1925'				
Total Measured Depth (ft): 1925'				
Fresh Water Depth (ft.): 125'				
Salt Water Depth (ft.): 1100'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.):				
Void(s) encountered (N/Y) Depth(s) N				
OPEN FLOW DATA (If more than two producing formation Producing formation Big Injun Sand Pay Gas: Initial open flow 75 MCF/d Oil: Initial open flow 15 MCF/d Final open flow 16 MCF/d Final open flow 17 MCF/d Final open flow 18 MCF/d Final open flow	zone depth (ft)_ flow_0 B w_0 Bt 48 Hours	1845 bl/d bl/d	ata on separate s	heet)
Second producing formation Pay zo  Gas: Initial open flow MCF/d Oil: Initial open flow MCF/d Final open flow	lowB	bl/d		Received Office of Oil & Ga
Time of open flow between initial and final tests	Hours			HAV C 0010

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Static rock Pressure \_\_\_\_\_psig (surface pressure) after \_\_\_\_\_Hours

Signature Signature

5-3-2013

MAY - 5 2013

Were core samples taken? Yes	No_X	Were cuttin	gs caught during	drilling? Yes	X No
Were Electrical, Mechanical or Geophysi	ical logs recorded on th	is well? If yes,	please list		
NOTE: IN THE AREA BELOW FRACTURING OR STIMULATING DETAILED GEOLOGICAL RECO COAL ENCOUNTERED BY THE W	, PHYSICAL CHAN( RD OF THE TOPS	SE, ETC. 2). T AND BOTTO	HE WELL LOC DMS OF ALL	G WHICH IS FORMATION	A SYSTEMATIC
Perforated Intervals, Fracturing, or Stimu	lating:				
Perforations: 42 holes between 1,84	45' to 1,859'				
Stimulation: Sand fracture consisting	ng of 947 bbls. of w	ater and 92,3	00 lbs. of sand	l with break	down
pressure of 3,103 psi and maximum	treating pressure of	f 2,034 psi			
Plug Back Details Including Plug Type ar	nd Depth(s):				
Formations Encountered: Surface:	Top De	oth	1	Bott	om Depth
See attached.					
				Rec Office of	eived Oll & Gas
				MAY	6 2012

<b>D</b>	
Formation S. 11	<u>Depth</u>
Soil	0 – 60
Sand	60 – 184
Slate	184 - 220
Shale	220 – 270
Sand	270 - 310
Slate	310 - 370
Sand	370 – 420
Coal	420 – 464
Slate	464 – 510
Sand	510 – 560
Slate	560 – 610
Sand	610 - 660
Sand	660 - 710
Slate	710 – 760
Shell/Slate	760 – 810
Sand/Slate	810 - 840
Sand/Slate	840 - 870
Slate	870 – 900
Slate	900 – 930
Sand	930 – 970
Sand	970 – 1000
Sand	1000 - 1030
Sand	1030 - 1060
Sand	1060 - 1100
Sand/Shale	1100 - 1120
Sand/Shale	1120 - 1190
Sand	1190 1322
Sand	1322 - 1380
Sand/Shale	1380 - 1420
Sand	1420 - 1472
Red Rock /Salt Sand	1472 – 1586
Maxon Sand	1586 - 1634
Little Lime	1634 - 1700
Pencil Cave	1700 - 1710
Big Lime	1710 – 1780
Keener Sand	1780 – 1816
Big Injun	1816 - 1866
Red Rock	1866 - 1929

Received Office of Oil & Gas

# State of West Virginia Department of Environmental Protection Office of Oil and Gas

\_\_\_\_ Operator Well No.: 512492

DATE:	3-18-2013	
API#:	47-1706033	

	Well Operator's Report of Well Work		
Farm name: Eli M. Gaston, et ux	Operator Well No.: 51249		

LOCATION: Elevation: 1,155	_ Quadrangle: _	Oxford		
District: Southwest	County: Dod	dridae WV		
Latitude: 39.177208 Feet South of Deg.				
Longitude -80.811958 Feet West of West Deg	.80 Min			
Company: EQT Production Company				
Address: EQT Plaza, Suite 1700	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
625 Liberty Avenue, Pittsburgh, PA 15222	20	40	40	45.31
Agent: Cecil Ray	13 3/8	944	944	876
Inspector: David Scranage	9 5/8	3,148	3,148	1,312.5
Date Permit Issued: 11-4-2011	5 1/2	10,073	10,073	1,524.5
Date Well Work Commenced: 4-29-2012				
Date Well Work Completed: 6-22-12				
Verbal Plugging: N/A			-	
Date Permission granted on:				
Rotary Cable Rig V				
Total Vertical Depth (ft): 6,564				
Total Measured Depth (ft): 10,075				
Fresh Water Depth (ft.): 449				
Salt Water Depth (ft.): 1,142				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 1,294, 1,328, 1,422				
Void(s) encountered (N/Y) Depth(s) N				
OPEN FLOW DATA (If more than two producing formation	سامه المعمد المعادد	ال السائدة المالية		
	ons piease includ zone depth (ft) <sup>6</sup>		ita on separate sh	ieet)
Gas: Initial open flow MCF/d Oil: Initial open f	low Bh	1/d		
Final open flow 7,763 MCF/d Final open flow	vBbl	l/d		
Time of open flow between initial and final tests	Hours		<0 cc	<b>(</b> \$
Static rock Pressure 1,150 psig (surface pressure) af	fterHour	·s	ENED d GC	r
Second producing formation N/A Pay zo.	ne depth (ft)	UE	MAR <b>5 3</b> 5013	
	lowBb	old office	5013	g.
Final open flowMCF/d Final open flow	vBbl	ı/a St	UNR DE	wig Dirion
Time of open flow between initial and final tests	Hours		Mir	s, tec,
Gas: Initial open flowMCF/d Oil: Initial open flowMCF/d Final open flowMCF/d Oil: Initial open flow	terHour	'S	un Debrian	,,,,
I certify under penalty of law that I have personally examined	and am familiar	with the inform	and submitted	on this document and
all the attachments and that, based on my inquiry of those indiv	viduals immedia	tely respondible	e for obtaining th	ne information I believe
that the information is true, accurate, and complete.				
Mhe But		3-18	-2013	
Signature			Date	

Were core samples taken? YesNo_X	Were cuttings caught during drilling? Yes_X_No
Were Electrical, Mechanical or Geophysical logs recorded	on this well? If yes, please list_Geophysical
FRACTURING OR STIMULATING, PHYSICAL CH	LLOWING: 1). DETAILS OF PERFORATED INTERVALS IANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIO OPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING M SURFACE TO TOTAL DEPTH.
Perforated Intervals, Fracturing, or Stimulating:	
See Attachment	
Plug Back Details Including Plug Type and Depth(s):	
N/A	
Formations Encountered: To Surface:	op Depth / Bottom Depth
Sand/Shale / 0 / 1294 / 1294 Coal / 1294 / 139	00 / 6 / Sand/Shale / 1300 / 1328 / 28
Coal / 1328 / 1332 / 4 Sand/Shale / 1332 / 1422 /	90 Coal / 1422 / 1428 / 6 Sand/Shale / 1428 / 1686 / 25
Maxton / 1686 / 1861 / 101 Big Lime / 1861 /	1923 / 62 Big Injun / 1923 / 2086 / 163
Weir / 2086 / 2345 / 259 Gantz / 2345 / 2465	/ 12 Fifty Foot / 2465 / 2553 / 88
Thirty Foot / 2553 / 2607 / 54 Gordon / 2607 /	2700 / 93 4th / 2700 / 2872 / 172
5th / 2872 / 2918 / 46 Bayard / 2918 / 3213 / 2	295 Warren / 3213 / 3284 / 71
Speechley / 3284 / 3817 / 533 Balltown A / 38	317 / 4162 / 345 Bradford / 4162 / 4731 / 569
Riley / 4731 / 4812 / 81 Benson / 4812 / 5059	/ 247 Alexander / 5059 / 6183 / 1124
Sonyea / 6183 / 6335 / 152 Middlesex / 6335	/ 6386 / 51 Genesee / 6386 / 6456 / 70
Geneseo / 6456 / 6498 / 42 Tully / 6498 / 651	6 / 18 Hamilton / 6516 / 6525 / 9
Marcellus Black Shale / 6525 / 6539 / 14 Purc	cell / 6539 / 6564 / 25 Cherry Valley / 6564

EQT WR-35	Completion	Attachment	Well	Treatment	Summary
Stage	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 8/25/2012	From / To 9771 - 9951	# of perfs	BD Press 6,260.00	<b>ATP Psi</b> 7,255.00	SIP Detail 5 Min: 2360
Avg Rate 87.10	Max Press PSI 8,687.00	ISIP 3,066.00	Frac Gradient 0.92		10 Min: 2177 15 Min: 2080
Sand Proppant 405,715.00	<b>Water-bbl</b> 9,416.00	SCF N2	<b>Acid-Gal</b> 2,000.00		
Stage 2	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 8/26/2012	From / To 9471 - 9713	# of perfs	BD Press 6,494.00	<b>ATP Psi</b> 7,908.00	SIP Detail 5 Min: 2779
<b>Avg Rate</b> 92.40	Max Press PSI 9,074.00	ISIP 5,071.00	Frac Gradient 1.23	v	10 Min: 2661 15 Min: 2429
Sand Proppant 345,053.00	<b>Water-bbl</b> 10,879.00	SCF N2	<b>Acid-Gal</b> 750.00	æ:	
Stage 3	Formation MARCELLUS	Frac Type Slickwater			
<b>Date</b> 8/27/2012	From / To 9171 - 9413	# of perfs	BD Press 6,813.00	<b>ATP Psi</b> 8,006.00	SIP Detail 5 Min: 2643
Avg Rate 84.90	Max Press PSI 8,894.00	ISIP 3,557.00	Frac Gradient		10 Min: 2466 15 Min: 2386
Sand Proppant 389,951.00	Water-bbl 11,724.00	SCF N2	<b>Acid-Gal</b> 750.00		

EQT WR-35	Completion	Attachment	Well	Treatment	Summary
Stage	Formation	Frac Type			
4	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/27/2012	8871 - 9113	sand search • • • • • • • • • • • • • • • • • • •	7,411.00	7,316.00	5 Min: 2583
				201	
Avg Rate	Max Press PSI	ISIP	Frac Gradient		10 Min: 2478 15 Min: 2408
88.70	8,732.00	3,191.00	0.94		15 Will. 2406
01					
Sand Proppant 403,643.00	<b>Water-bbl</b> 9,419.00	SCF N2	Acid-Gal		
403,043.00	9,419.00		750.00		
Stage	Formation	Frac Type			
5	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/27/2012	8571 - 8813		6,353.00	7,115.00	5 Min: 2602
					10 Min. 2472
Avg Rate	Max Press PSI	ISIP	Frac Gradient		10 Min: 2473 15 Min: 2396
98.60	8,428.00	2,983.00	0.9		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
408,015.00	9,419.00		750.00		
Stage	Formation	Even Tunn	TRACT EVE		THE STEEL
Graye 6	MARCELLUS	Frac Type Slickwater			
		Ollokwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/27/2012	8271 - 8511		5,501.00	7,672.00	5 Min: 2599
					10 Min: 2412
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 2309
96.00	8,478.00	3,093.00	0.92		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
400,211.00	9,574.00		750.00		

EQT WR-35	Completion	Attachment	Well	Treatment	Summary
Stage	Formation	Frac Type			
7	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/28/2012	7971 - 8213		5,987.00	6,722.00	5 Min: 3004
					10 Min: 2725
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 2674
96.90	7,870.00	4,129.00	1.08		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
403,583.00	9,645.00		750.00		
Stage	Formation	Frac Type			
8	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/28/2012	7671 - 7913		5,717.00	6,850.00	5 Min: 3474
					10 Min: 3015
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 2795
99.50	7,270.00	4,869.00	1.2		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
404,814.00	9,378.00		750.00		
Stage	Formation	Frac Type			
9	MARCELLUS	Slickwater			W 101
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/28/2012	7371 - 7613		6,123.00	6,497.00	5 Min: 3219
					10 Min: 2711
Avg Rate	Max Press PSI		Frac Gradient		15 Min: 2546
91.40	7,430.00	4,112.00	1.08		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
404,006.00	9,349.00		750.00		

EQT WR-35	Completion	Attachment	Well	Treatment	Summary
Stage	Formation	Frac Type			
10	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/28/2012	7071 - 7313		6,862.00	7,309.00	5 Min: 2732
					10 Min: 2600
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 2529
90.90	9,150.00	3,418.00	0.97		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
385,765.00	9,793.00		750.00		
Stage	Formation	Frac Type			
11	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
8/29/2012	6771 - 7013		5,304.00	6,608.00	5 Min: 2757
					10 Min: 2642
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 2570
99.70	7,116.00	3,204.00	0.94		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		

#### State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	3-18-2013
API#:	47-10302677

Farm name: John W. & Florence E. Kilcoyne				Operator Well No.: 513755				
LOCATION: Elevation: 857			Quadran	gle: Big Ru	n			
District: Grant			County:	Wetzel, W\	/			
Latitude: 39.56053	Feet South of	Deg.		Min. 35	Sec.			
Longitude -80.56012	Feet West of West			Min. 32	Sec.			

**EQT Production Company** 

Address: EQT Plaza, Suite 1700	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
625 Liberty Avenue, Pittsburgh, PA 15222	20	42	42	74.34
Agent: Cecil Ray	16	301	301	389.4
Inspector: David Scrange	13 3/8	815.09	815.09	309.6
Date Permit Issued: 7-14-2011	9 5/8	3,058.54	5,058.54	1,415.2
Date Well Work Commenced: 2-14-2012	5 1/2	10,933	10,933	1,475.4
Date Well Work Completed: 6-27-2012				
Verbal Plugging: N/A				
Date Permission granted on:				
Rotary Cable Rig				
Total Vertical Depth (ft): 7,038				
Total Measured Depth (ft): 10,985				-
Fresh Water Depth (ft.): 222				
Salt Water Depth (ft.): 1,440				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 411, 594, 612				
Void(s) encountered (N/Y) Depth(s) N				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet) Producing formation Marcellus Pay zone depth (ft) 7,012 Gas: Initial open flow \_\_\_\_\_\_MCF/d Oil: Initial open flow \_\_\_\_\_\_Bbl/d

Final open flow 8,517 \_\_MCF/d \_\_Final open flow \_\_\_\_\_\_Bbl/d

Time of open flow between initial and final tests \_\_\_\_\_\_Hours

Static rock Pressure 1,536 \_\_psig (surface pressure) after \_\_\_\_\_\_Hours

Second producing formation \_\_\_\_\_N/A \_\_\_\_Pay zone depth (ft) \_\_\_\_\_\_\_

Gas: Initial open flow \_\_\_\_\_\_\_MCF/d Oil: Initial open flow \_\_\_\_\_\_\_Bbl/d

Final open flow \_\_\_\_\_\_\_MCF/d Final open flow \_\_\_\_\_\_\_Bbl/d

Time of open flow between initial and final tests \_\_\_\_\_\_\_Hours

Static rock Pressure \_\_\_\_\_\_\_psig (surface pressure) after \_\_\_\_\_\_Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe

all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete

3-18-2013 Date

103-2677

Were core samples taken? Ye	esNo_X	Were cutti	ings caught during	g drilling? Yes_X_No
Were Electrical, Mechanical or	Geophysical logs record	led on this well? If yes	s, please list_Ge	eophysical
FRACTURING OR STIMU	LATING, PHYSICAL ( L RECORD OF THE	CHANGE, ETC. 2). TOPS AND BOTT	THE WELL LOOMS OF ALL	PERFORATED INTERVALS, G WHICH IS A SYSTEMATIC FORMATIONS, INCLUDING I.
Perforated Intervals, Fracturing	g, or Stimulating:			
See Attachment				
Ooo / tituoriiriorit	<del>-</del>			
<del></del>			-	
			-	
Plug Back Details Including Pl	ug Type and Depth(s):			
N/A				
Formations Encountered:		Top Depth	/	Bottom Depth
Surface:				
Sand/Shale / 0 / 411 / 41:	1 Coal / 411 / 417	/ 6 Sand/Shale	/	77 Coal / 594 / 601 / 7
				Maxton / 1638 / 1693 / 55
Big Lime / 1693 / 1864 / 1				<del></del>
				- Thirty Foot / 2501 / 2590 / 89 -
Gordon / 2590 / 2667 / 77				
Warren / 3310 / 3358 / 48			<b>-</b>	
Balltown / 3874 / 4340 / 4				
Alexander / 5326 / 6554 /		-		
Genesee / 6776 / 6860 / 8	······································			<del></del>
Hamilton / 6923 / 7012 / 8			<u> </u>	
Cherry Valley / 7038				

•

EQT WR-35	Completion	Attachment	Well	Treatment	Summary
Stage	Formation	Frac Type			
1	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
4/21/2012	10672 - 10914		9,628.00	8,064.00	5 Min: 3889
					10 Min: 3761
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 3698
89.70	8,589.00	4,434.00	1.07		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
405,436.00	10,474.00		2,000.00		
Stage	Formation	Frac Type			
2	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
4/21/2012	10373 - 10643		7,656.00	8,101.00	5 Min: 3814
					10 Min: 3688
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 3608
91.70	8,788.00	4,227.00	1.04		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
405,791.00	9,393.00		750.00		
Stage	Formation	Frac Type			
3	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
4/22/2012	10072 - 10314		7,821.00	8,187.00	5 Min: 3938
					10 Min: 3823
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 3750
95.70	8,979.00	4,281.00	1.05		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
401,330.00	9,493.00		750.00		

EQT WR-35	Completion	Attachment	Well	Treatment	Summary
Stage	Formation	Frac Type			
4	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
4/22/2012	9772 - 10114	•	7,495.00	8,127.00	5 Min: 3829
				·	
					10 Min: 3704
Avg Rate	Max Press PSI		Frac Gradient		15 Min: 3631
96.60	8,624.00	4,231.00	1.05		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
401,718.00	9,430.00		750.00		
Stage	Formation	Frac Type			
5	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
4/22/2012	9472 - 9714		7,979.00	7,989.00	5 Min: 3849
					10 Min: 3754
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 3700
94.50	8,603.00	4,310.00	1.06		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
402,646.00	9,239.00		750.00		
Stage	Formation	Frac Type			
6	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
4/23/2012	9172 - 9414		8,060.00	7,961.00	5 Min: 3899
					10 Min: 3804
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 3746
94.80	8,521.00	4,267.00	1.05		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
406,424.00	9,313.00		750.00		

EQT WR-35	Completion	Attachment	Well	Treatment	Summary
Stage	Formation MARCELLUS	Frac Type Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
4/23/2012	8872 - 9114		7,580.00	7,731.00	5 Min: 3900
. 5.	M . D DO!	1015	5 O " 1		10 Min: 3791
<b>Avg Rate</b> 98.90	Max Press PSI 8,378.00	4,248.00	Frac Gradient 1.05		15 Min: 3725
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
404,039.00	9,118.00		750.00		
Stage 8	Formation MARCELLUS	Frac Type Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
4/23/2012	8572 - 8814		7,260.00	7,742.00	5 Min: 3944
Avg Rate	Max Press PSI	ISID	Frac Gradient		10 Min: 3838 15 Min: 3783
99.20	8,536.00	4,301.00	1.06		15 Will. 5765
Sand Proppant 398,967.00	<b>Water-bbl</b> 9,350.00	SCF N2	<b>Acid-Gal</b> 750.00		
Stage	Formation	Frac Type			
9	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
4/26/2012	8272 - 8314		7,684.00	7,713.00	5 Min: 3919
Avg Rate	Max Press PSI	ISIP	Frac Gradient		10 Min: 3841 15 Min: 3792
97.80	8,453.00	4,261.00	1.05		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
401,349.00	8,913.00		750.00		

EQT WR-35	Completion	Attachment	Well	Treatment	Summary
Stage	Formation	Frac Type			
10	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
4/27/2012	7972 - 8214	# OI perio	7,365.00	7,201.00	5 Min: 3901
	7072 0211		1,000.00	,,201.00	
					10 Min: 3897
Avg Rate	Max Press PSI		Frac Gradient		15 Min: 3796
99.90	9,282.00	4,294.00	1.06		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
400,921.00	8,798.00		750.00		
Stage	Formation	Frac Type			
11	MARCELLUS	Slickwater			
D-4-	Page 475	# - 6 6-	DD D	4.TD D. :	
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
4/27/2012	7672 - 7914		7,389.00	7,401.00	5 Min: 3898
					10 Min: 3818
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 3775
99.90	8,461.00	4,351.00	1.06		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
405,788.00	9,231.00		750.00		
Stage	Formation	Frac Type			
12	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
4/27/2012	7372 - 7612	# OI pells	7,418.00	6,966.00	5 Min: 3961
4/2//2012	7072 - 7012		7,410.00	0,900.00	5 Will1. 590 I
					10 Min: 3888
Avg Rate	Max Press PSI		Frac Gradient		15 Min: 3844
100.10	8,535.00	4,181.00	1.04		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
402,576.00	9,178.00		750.00		

EQT WR-35	Completion	Attachment	Weli	Treatment	Summary
Stage	Formation	Frac Type			
13	MARCELLUS	Slickwater			
Date	From / To	# of perfs	BD Press	ATP Psi	SIP Detail
4/27/2012	7207 - 7329		7,468.00	7,357.00	5 Min: 3976
					10 Min: 3905
Avg Rate	Max Press PSI	ISIP	Frac Gradient		15 Min: 3862
99.20	8,496.00	4,757.00	1.07		
Sand Proppant	Water-bbl	SCF N2	Acid-Gal		
199,453.00	4,415.00		750.00		<u> </u>
South Section 1998			<b>建国</b> 教徒的表示。		

DATE: 3-1-2010

API#: 47-33-05161

### State of West Virginia Department of Environmental Protection Office of Oil and Gas

Well Operator:	s Report of We	II WOLK		
Farm name: Galvan, Jane & C. Temeus	Opera	tor Well No.: (	ialvan#1	
LOCATION: Elevation: 1149°	Quadr	ma 7.5		
District: Simpson	Count	ty: Hamison		
Latitude: 1550 Feet South of 39	Deg. 12	Min. 30	Sec.	
Longitude 3550 Feet West of 80	Deg. 12	Min 30	Sec.	
_				
Company: Gastar Exploration USA, Inc.		i	l v	Cement fill
	Casing &	Used in	Left in well	up Ca. Ft.
	Tubing	drilling		Sand
Address: 1331 Lamar, Suite 1080	13 3/8"	30'	336	105
Houston, Texas 77010	9 5/8"		1992°	323
Agent: William M. Herliky	7"		4500'	246
Inspector: Tim Bennett	4 1/2"		3938'	вове
Date Permit Issued: 9/22/98	27/8"		3936	Die
Date Well Work Commenced: 1/22/09			<del></del>	
Date Well Work Completed: 5/96/09		<del> </del>		
Verbal Plugging:		<del> </del>	<del>                                     </del>	
Date Permission granted on: 1/20/09				<del>                                     </del>
Rotary X Cable Rig	<del> </del>	<del>                                     </del>	RECE	IVED
Total Depth (feet): 4639			Office of (	
Fresh Water Depth (ft.): 98,363, 518			<del>Pilice or v</del>	11 3 Giero -
Salt Water Depth (ft.): 1965			0.01.4	2012
Sait Water Depte (iii.). Des			JUN 1	2 (013
Is coal being mixed in area (N/Y)? N				
Coal Depths (ft.): 104-106			WV Depa	itment of
Com popular (m).	•	En	vironment	al Protection
OPEN FLOW DATA			AllOthrichin	arr rotooner
	_			
Producing formation Benson Sand		epth (ft) 4358		
OLD 2000	Initial open f		bl/d	
	Final open flo		3 <b>b</b> 1/d	
Time of open flow between initial and	final tests 24	. <u>1</u>	lours	
Static rock Pressure 1650 psig (surfa	ace pressure) a	after 96 H	lours	
-				
Second producing formation		one depth (ft)_		
Gas: Initial open flowMCF/d Oil: In		w	Bbl/d	
Final open flow MCF/d Final			bl/d	
Time of open flow between initial and		Hou		
Static rock Pressurepsig (surfa	ce pressure) a	ifterH	SIBC	
NOTE: ON BACK OF THIS FORM PUT THE INTERVALS, FRACTURING OR STIMULATI LOG WHICH IS A SYSTEMATIC DETAILED INCLUDING COAL ENCOUNTERED BY THE Signed:    Signed:	NG, PHYSICA GEOLOGICA	AL CHANGE, AL RECORD (	ETC. 2). THE V	VELL

	Galvan #1	•	47-33-05161	
Fill	Brown	Soft	0-6	
Shale .	Gray	Med	612	
Red Rock	Red	Med	12-16	
Sandy & Shale	Gray	Med	16 <del>-9</del> 8	
Shale	Gray.	Soft	98-104	damp @ 98'
Coal	Black	Soft	104-106	i
Sandy Shale	Gray	Med	106-231	
Sand	Gray	Med	231-270	•
Shale	Gray	Soft	270-305	3" stream @ 3031
Sand	Gray	Med	305-318	<b>;</b>
Sandy Shale	Gray	Med	318-510	•
Shale	Gray	Soft	510-518	damp @ 518'
Sand & Shale	Gray	Med	518-850	•
Sand	Light Gray	Med	850-102	2
Sandy Shale	Gray	Med	1022-14	30
Big Lime	Dark Gray	Hard	1430-14	82
Big Injun	Brown	Hard	1482-15	98
Sandy Shale	Gray	Soft	1598-18	76
Gantz Sand	Light Gray	Hard	1876-19	22 2 1/2" Brine @ 1965'
Sand & Shale	Gray	Med	1922 21	.34
Gordon Sand	Gray	Hard	2134-21	.46
Shale & Sand	Gray	Med	2146-23	82
Fifth Sand	Gray	Hard	2382-24	23
Sandy Shale	Gray	Med	2423-28	83
Sand	Gray	Med	2883-28	95
Sandy Shale	Gray	Med	2895-43	58
Sand	Gray	Hard	4358-44	00
Sandy Shale	Gray	Med	4400-46	39

### Galvan Frac.txt

Benson Sand Perforations: 4358-4362 with 12 Holes

broke down w/500 gal. 15% HCL Acid, Fraced w/63.400# 30/50 sand, 2002 Bbls. Sand Laden Fluid.

### State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	April 11, 2013	
API#:	47-051-01520	

ATION: Elevation: 1354'	Onadeonala	New Martinsville	7.5'	•
	_		7.5	<del></del>
District: Franklin	County: Man		- ******	
			ec. ec.	
Longitude to Peet West of to De	g. <u></u> IVIII	n. <u></u> 50	3C.	
Company: Gastar Exploration USA, Inc.				
Company.	Casing &	Used in	Left in well	Cement fill
Address: 229 West Main Street, Suite 301	Tubing	drilling		up Cu. Ft.
Clarksburg, WV 26301	20"		110'	CTS
Agent: Michael McCown	13-3/8"		1146'	1046
Inspector: Bill Hendershot	9-5/8"		2534'	1103
Date Permit Issued: 1/13/2012	5-1/2"		12620'	3450
Date Well Work Commenced: 3/12/2012	2-3/8"		6552'	
Date Well Work Completed: 8/26/2012				
Verbal Plugging:				
Date Permission granted on:				
Rotary K Cable Rig				
Total Vertical Depth (ft): 6,617'				
Total Measured Depth (ft): 12,620'				
Fresh Water Depth (ft.): 60'				
Salt Water Depth (ft.): 1600'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 890-910; 1031-1041				
Void(s) encountered (N/Y) Depth(s) N				
			_	
N FLOW DATA (If more than two producing format Producing formation Marcellus Page 1	tions please incli y zone depth (ft)		data on separate s	heet)
Gas: Initial open flow 1560 MCF/d Oil: Initial open				
Final open flow 3026 MCF/d Final open flo			Received fice of Oil & Ga	ıs
Time of open flow between initial and final tests 21	6 Hour	s Oi	IICA OI OII Œ Œ	
tatic rock Pressure 1975 psig (surface pressure)	after 216 Hou	ırs		
		i	APR 1 2 2013	
	zone depth (ft)	<u></u>		
Gas: Initial open flowMCF/d Oil: Initial open		Bbl/d		
Final open flow MCF/d Final open flo		bl/d		
Time of open flow between initial and final tests				
static rock Pressurepsig (surface pressure)	afterHou	irs		
	4 4 <b>6</b> !!!.			) <b></b>
y under penalty of law that I have personally examine				
attachments and that, based on my inquiry of those inc	uividuais immedi	iately responsit	ole for obtaining t	ne iniormatio
information is true, accurate, and complete.		4		
The No h	` _	4	-11-13	
Signature			Date	
Signature	•			

Were core samples taken? YesNoX	Were cuttings caught during drilling? Yes X No
Were Electrical, Mechanical or Geophysical logs recorde GR, Mudog, Acousti, Density, Induction, Mech. Prop. & XMAC	ed on this well? If yes, please list
FRACTURING OR STIMULATING, PHYSICAL C	OLLOWING: 1). DETAILS OF PERFORATED INTERVALS. CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIO TOPS AND BOTTOMS OF ALL FORMATIONS. INCLUDING
Perforated Intervals, Fracturing, or Stimulating:	
See attached page:	
	·
Plug Back Details Including Plug Type and Depth(s):	
Formations Encountered: T Surface:	Cop Depth / Bottom Depth
SEWICKLEY COAL: 890 - 910	GENESEO: 6750 - 6797
PITTSBURGH COAL: 1031 - 1041	TULLY: 6797 - 6872
MAXTON: 2009 - 2059	HAMILTON: 6872 - 6921
BIG LIME: 2082 - 2112	MARCELLUS: 6921 - 6974
BIG INJUN: 2122	ONONDAGA: 6974 - n/a (TD'd before base)
BASE OF BIG INJUN: 2256	
WEIR: 2441 - 2611	
BEREA: 2629 - 2869	
GORDON: 2964 - 2994	
BENSON: 3668 - 3678	
JAVA: 5291 - 5611	
RHINESTREET: 6137 - 6473	
CASHAQUA: 6473 - 6605	Received
MIDDLESEX: 6605 - 6639	Office of Oil & Gas
WEST RIVER: 6639 - 6750	APR 1 2 2013
	ΔPR 1 2 2012

Fluid & Sand Volume Summary - Wayne #1H

									Gas	<u> </u>
<u>Date</u>	<u>Stage</u>	<u>Perforate</u>	d interval	Fluid Type	Frac Fluid	Pump	100 mesh	40/70 M	Total-Sand	Avg Inj
		<u>From</u>	<u>To</u>			<u>Down</u>			of O	. 4
		ft	ft		bbls	bbls	lbs	lbs		<u></u> BPM
7/16/2012	1	12434	12524	sik wtr	4283	0	46982	150236	19 🛱 18	₩ 82
7/17/2012	2	12154	12364	slk wtr	7632	370	93979	246361	340340	80
7/18/2012	3	11854	12064	slk wtr	6933	398	94007	254660	348667	80
7/19/2012	4	11554	11764	slk wtr	7008	367	94008	243491	337499	81
7/20/2012	5	11254	11464	slk wtr	7344	370	95050	292541	387591	81
7/21/2012	6	10954	11164	slk wtr	7384	346	93907	295682	389589	83
7/22/2012	7	10654	10864	slk wtr	7234	453	94031	294750	388781	82
7/23/2012	8	10354	10564	slk wtr	7392	295	93752	257665	351417	80
7/26/2012	9	10054	10264	slk wtr	7860	266	95910	229296	325206	80
7/27/2012	10	9754	9964	slk wtr	7622	231	95045	174436	269481	80
7/29/2012	11	9454	9664	slk wtr	6482	219	91323	175625	266948	80
7/30/2012	12	9154	9364	slk wtr	6776	270	94122	185209	279331	80
8/1/2012	13	8854	9064	slk wtr	6420	195	94484	124444	218928	80
8/2/2012	14	8554	8764	slk wtr	7426	147	77584	230170	307754	80
8/3/2012	15	8254	8464	slk wtr	7568	126	79202	218538	297740	81
8/4/2012	16	7954	8164	sik wtr	6297	144	78623	117816	196439	80
8/5/2012	17	7654	7864	slk wtr	7420	77	79309	214142	293451	81
8/6/2012	18	7354	7564	slk wtr	7655	75	80135	235053	315188	80
8/7/2012	19	6904	7254	slk wtr	6647	72	76161	181286	257447	80
	Totals				133383	4421	1647614	4121401	5769015	

Water to Recover 137804 bbls

### State of West Virginia **Department of Environmental Protection** Office of Oil and Gas

DATE:	April 11, 2013
API#:	47-051-01521

Well Operator's Report of Well Work

TION: Elevation: 1354'	Quadrangle:	Quadrangle: New Martinsville 7.5'					
District: Franklin	County: Man	shall					
Latitude: 1555 Feet South of 39 De	g. 45 Mi	n. 00 S	ec.	<del></del>			
Longitude 6635 Feet West of 80 De	eg. <u>47</u> Mir	n. <u>30</u> S	ec.				
Company: Gastar Exploration USA, Inc.							
Address: 229 West Main Street, Suite 301	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.			
Clarksburg, WV 26301	20"		110'	CTS			
Agent: Michael McCown	13-3/8"		1147'	1046			
Inspector: Bill Hendershot	9-5/8"		2535'	1077			
Date Permit Issued: 1/13/2012	5-1/2"		12122'	3394			
Date Well Work Commenced: 3/23/2012	2-3/8"		6478'				
Date Well Work Completed: 8/26/2012							
Verbal Plugging:							
Date Permission granted on:							
Rotary Cable Rig							
Total Vertical Depth (ft): 6,618'							
Total Measured Depth (ft): 12,124'							
Fresh Water Depth (ft.): 60'							
Salt Water Depth (ft.): 1600'							
Is coal being mined in area (N/Y)? N							
Coal Depths (ft.): 890-910; 1031-1041							
Void(s) encountered (N/Y) Depth(s) N							
EN FLOW DATA (If more than two producing forms Producing formation Marcellus Pa Gas: Initial open flow 1872 MCF/d Oil: Initial open Final open flow 2595 MCF/d Final open fl Time of open flow between initial and final tests 2 Static rock Pressure 1800 psig (surface pressure)	y zone depth (ft) 1 flow 73 E  0w 168 B  16 Hour	6618' Bb1/d b1/d s	data on separate s	heet)			
Second producing formation Pay	zone depth (ft)		<u>^</u>	Received			
Gas: Initial open flow MCF/d Oil: Initial open		Bbl/d	Of	fice of Oil & C			
Final open flow MCF/d Final open fl		bl/d	4	DO 4			
Time of open flow between initial and final tests_	Hour	9	Δ	PR 12 2013			

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Were core samples taken? YesNo_X	Were cuttings caught during drilling? Yes X NoNo
Were Electrical, Mechanical or Geophysical logs records, Mudlog, Acousti, Density, Induction, Mech. Prop.& XMAC	rded on this well? If yes, please list
FRACTURING OR STIMULATING, PHYSICAL	FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, L CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC E TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING FROM SURFACE TO TOTAL DEPTH.
Perforated Intervals, Fracturing, or Stimulating:	
See attached page:	
Plug Back Details Including Plug Type and Depth(s):	
Formations Encountered: Surface:	Top Depth / Bottom Depth
SEWICKLEY COAL: 890 - 910	GENESEO: 6750 - 6797
PITTSBURGH COAL: 1031 - 1041	TULLY: 6797 - 6872
MAXTON: 2009 - 2059	HAMILTON: 6872 - 6921
BIG LIME: 2082 - 2112	MARCELLUS: 6921 - 6974
BIG INJUN: 2122	ONONDAGA: 6974 - n/a (TD'd before base)
BASE OF BIG INJUN: 2256	
WEIR: 2441 - 2611	
BEREA: 2629 - 2869	
GORDON: 2964 - 2994	
BENSON: 3668 - 3678	Received
JAVA: 5291 - 5611	Office of Oil & Gas
RHINESTREET: 6137 - 6473	400
CASHAQUA: 6473 - 6605	APR 1 2 2013
MIDDLESEX: 6605 - 6639	
WEST RIVER: 6639 - 6750	

Fluid & Sand Volume Summary - Wayne #2H

<u>Date</u>	<u>Stage</u>	<u>Perforate</u>	d interval	Fluid Type	Frac Fluid	Pump	100 mesh	40/70 M	Total Sand	<u>Avg Inj</u>
		<u>From</u>	<u>To</u>			Down		10/10/10	ň	
		ft	ft		bbls	bbls	lbs	lbs	୍ର ଜୁନ୍ଦି	<b>₩</b> 033
7/16/2012	1	11939	12029	sik wtr	4018		47034	151607	1985 <u>P</u> 1	<sup>81</sup>
7/17/2012	2	11659	11869	sik wtr	7758	340	93968	297306	394274	R1
7/19/2012	3	11359	11569	slk wtr	6798	362	94072	238672	3327 <b>:</b> #4	81 81 81
7/20/2012	4	11059	11269	slk wtr	6754	350	76087	276136	352223	80
7/21/2012	5	10759	10969	slk wtr	7195	310	93977	296968	390945	83
7/22/2012	6	10459	10669	slk wtr	6575	321	93953	208121	302074	83
7/23/2012	7	10159	10369	slk wtr	7591	287	94453	297124	391577	80
7/24/2012	8	9859	10069	slk wtr	8789	255	94830	282122	376952	80
7/25/2012	9	9559	9769	slk wtr	9268	214	93454	209103	302557	80
7/26/2012	10	9259	9469	slk wtr	8362	217	96516	234642	331158	80
7/27/2012	11	8959	9169	slk wtr	7688	211	94330	253129	347459	80
7/29/2012	12	8659	8869	slk wtr	6704	382	92564	124058	216622	80 81
7/30/2012	13	8359	8569	slk wtr	6704	159	94078	237198	331276	80
7/31/2012	14	8059	8269	slk wtr	7970	171	93569	298902	392471	80 81
8/1/2012	15	7759	7969	slk wtr	7962	117	93393	252542	345935	81
8/2/2012	16	7459	7669	slk wtr	7990	107	78846	307850	386696	81
8/3/2012	17	7159	7369	slk wtr	6858	83	78269	177391	255660	81
8/4/2012	18	6859	7069	slk wtr	7174	58	78873	259786	338659	
					,		70073	233760	330033	81
	Totals				132158	3944	1582266	4402657	5984923	

Water to Recover 136102 bbls

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	April 11, 2013
API#:	47-051-01522

L

Farm name: Wayne - South Operator Well No.: 3H						
LOCATION: Elevation: 1354	Quadrangle:	New Martinsville	7.5'			
District: Franklin	County: Mars	County: Marshall				
Latitude: 1585 Feet South of 39 Deg	g. 45 Mir	45 Min. 00 Sec.				
Longitude 6620 Feet West of 80 De	g. 47 Mir	. <u>30</u> S	ec.			
Company: Gastar Exploration USA, Inc.						
Address: 229 West Main Street, Suite 301	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.		
Clarksburg, WV 26301	20"		110'	CTS		
Agent: Michael McCown	13-3/8"		1147'	1046		
Inspector: Bill Hendershot	9-5/8"		2528'	1075		
Date Permit Issued: 1/13/2012	5-1/2"		12103'	3394		
Date Well Work Commenced: 4/4/2012	2-3/8"		6445'			
Date Well Work Completed: 8/26/2012						
Verbal Plugging:						
Date Permission granted on:						
Rotary Cable Rig						
Total Vertical Depth (ft): 6,610'						
Total Measured Depth (ft): 12,104'						
Fresh Water Depth (ft.): 60'						
Salt Water Depth (ft.): 1600'						
Is coal being mined in area (N/Y)? N						
Coal Depths (ft.): 890-910; 1031-1041						
Void(s) encountered (N/Y) Depth(s) N						
OPEN FLOW DATA (If more than two producing formation Producing formation Marcellus Pay Gas: Initial open flow 1512 MCF/d Oil: Initial open Final open flow MCF/d Final open flow Time of open flow between initial and final tests 21 Static rock Pressure 1800 psig (surface pressure)	y zone depth (ft) flow 90 B ow 126 Bt 6 Hours	6610' bl/d bl/d	·	ŕ		
Second producing formation Pay z Gas: Initial open flow MCF/d Oil: Initial open	pth (ft) Peceived Office of Oil & Gas					
Final open flow MCF/d Final open flo		ol/d	ADD -	•		
Time of open flow between initial and final tests	Hours		APR 12	2013		
Static rock Pressurepsig (surface pressure)	afterHou	rs				
certify under penalty of law that I have personally examined all the attachments and that, based on my inquiry of those included that the information is true, accurate, and complete.						
Signature	· · · · · · · · · · · · · · · · · · ·		Date			

Were core samples taken? YesNo^		Were cuttings caught	during drilling? Yes X No
Were Electrical, Mechanical or Geophysical logs rec GR, Mudtog, Acousti, Density, Induction, Mech. Prop.& XMAC	orded on this w	ell? If yes, please list	
Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list	L LOG WHICH IS A SYSTEMATIC ALL FORMATIONS, INCLUDING		
Perforated Intervals, Fracturing, or Stimulating:			
See attached page:		· 	
Plug Back Details Including Plug Type and Depth(s):			
	Top Depth	1	Bottom Depth
SEWICKLEY COAL: 890 - 910		GENESEO: 67	<b>7</b> 50 - 6797
PITTSBURGH COAL: 1031 - 1041		TULLY: 6797	- 6872
MAXTON: 2009 - 2059		HAMILTON: 68	72 - 6921
BIG LIME: 2082 - 2112		MARCELLUS:	6921 - 6974
BIG INJUN: 2122		ONONDAGA:	6974 - n/a (TD'd before base)
BASE OF BIG INJUN: 2256			
WEIR: 2441 - 2611			
BEREA: 2629 - 2869			
GORDON: 2964 - 2994			
BENSON: 3668 - 3678			
JAVA: 5291 - 5611			
RHINESTREET: 6137 - 6473			Received
CASHAQUA: 6473 - 6605			Onice of Oil & Gas
MIDDLESEX: 6605 - 6639			APR 1 2 2000
WEST RIVER: 6639 - 6750			APH 1 2 2013

### Fluid & Sand Volume Summary - Wayne #3H

									f Gei	2
<u>Date</u>	<u>Stage</u>	<u>Perforate</u>	d interval	Fluid Type	Frac Fluid	<u>Pump</u>	<u>100 mesh</u>	40/70 M	Total Sand	Avg Inj
		<u>From</u>	<u>To</u>			<u>Down</u>			: Offic	BPW PR
		ft	ft		bbls	bbls	lbs	lbs	lbs O	BPM
7/16/2012	1	11934	12024	slk wtr	4100		48043	149031	197074	83
7/17/2012	2	11659	11869	slk wtr	7236	397	94110	283734	377844	82
7/19/2012	3	11359	11569	slk wtr	7408	721	93905	296065	389970	81
7/20/2012	4	11059	11269	slk wtr	7699	371	94048	310250	404298	82
7/21/2012	5	10759	10969	slk wtr	7352	326	95069	292209	387278	83
7/22/2012	6	10459	10669	slk wtr	7328	309	94005	278441	372446	82
7/23/2012	7	10159	10369	slk wtr	7018	288	93834	271760	365594	80
7/24/2012	8	9859	10069	slk wtr	7885	264	95096	299187	394283	81
7/25/2012	9	9559	9769	slk wtr	8841	212	95200	281974	377174	80
7/26/2012	10	9259	9469	slk wtr	7303	230	94520	134656	229176	80
7/28/2012	11	8959	9169	slk wtr	7300	201	94740	283847	378587	80
7/30/2012	12	8659	8869	slk wtr	7094	206	93484	297057	390541	80
7/31/2012	13	8359	8569	slk wtr	6694	153	94187	205027	299214	80
8/1/2012	14	8059	8269	slk wtr	6616	151	78884	124913	203797	81
8/2/2012	15	7759	7969	slk wtr	6969	121	79200	207608	286808	80
8/3/2012	16	7459	7669	slk wtr	5887	87	80251	85627	165878	81
8/4/2012	17	6959	7309	slk wtr	6931	73	79346	202986	282332	81

Totals 119661 4110 1497922 4004372 5502294

Water to Recover 123771 bbls

## State of West Virginia Department of Environmental Protection Office of Oil and Gas

DATE:	April 11, 2013	
API#:	47-051-01523	

Well Operator's Report of Well Work

Farm name: Wayne - South		Well No.: 4H		<del></del>
LOCATION: Elevation: 1354'	Quadrang	le: New Martinsville	7.5'	
District: Franklin	County: _			
Latitude: 1580 Feet South of 39			ec.	<del></del>
Longitude 6605 Feet West of 80	Deg47	Min. 30 S	ec.	
Company: Gastar Exploration USA, Inc.				
Address: 229 West Main Street, Suite 30	Ol Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Clarksburg, WV 26301	20"		110'	CTS
Agent: Michael McCown	13-3/8	17	1145'	994
Inspector: Bill Hendershot	9-5/8'		2527'	1071
Date Permit Issued: 1/13/2012	5-1/2'		12244'	3428
Date Well Work Commenced: 4/20/2012	2-3/8'		6544'	
Date Well Work Completed: 8/26/2012	2			
Verbal Plugging:				
Date Permission granted on:				
Rotary X Cable Rig				
Total Vertical Depth (ft): 6,612'				
Total Measured Depth (ft): 12,270'				
Fresh Water Depth (ft.): 60'				
Salt Water Depth (ft.): 1600'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 890-910; 1031-1041				
Void(s) encountered (N/Y) Depth(s) N				
Final open flow 2904 MCF/d Final Time of open flow between initial and final	Pay zone depth tial open flow 100 open flow 212 tests 216 House 100 open flow 212 open flow 100 open flow 212 open flow 100 open flow 212 open		data on separate s	heet)
Second producing formation	Pay zone depth (ft	)	A Rece	ived
Gas: Initial open flow MCF/d Oil: Init	•	_Bbl/d	Office of (	Oil & Gas
Final open flowMCF/d Final Time of open flow between initial and final	open flow	_Bbl/d ours	15-	
Static rock Pressurepsig (surface pr		Hours	APR 12	2013
certify under penalty of law that I have personally end the attachments and that, based on my inquiry of that the information is true, accurate, and complete.	examined and am fam			
S	ignature		Date	

Were core samples taken? YesNoX	Were cuttings caught during drilling? Yes_X_No
Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list  GR. Modfog, Account, Dennity, Induction, Mech. Prop.A. 20M.C  NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTER FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEI DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCL. COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.  Perforated Intervals, Fracturing, or Stimulating:  See attached page:  Plug Back Details Including Plug Type and Depth(s):  Eormations Encountered: Top Depth / Bottom Depth  Surface:  SEWICKLEY COAL: 890 - 910 GENESEO: 6750 - 6797  PITTSBURGH COAL: 1031 - 1041 TULLY: 6797 - 6872  MAXTON: 2009 - 2059 HAMILTON: 6872 - 6821  BIG LIME: 2082 - 2112 MARCELLUS: 6921 - 6974  BIG INJUN: 2122 ONONDAGA: 6974 - n/a (TD'd before be lasted of the company of the co	CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC TOPS AND BOTTOMS OF ALL FORMATIONS INCLUDING
	See attached page:
	·
Plug Back Details Including Plug Type and Depth(s):	
Formations Encountered: Surface:	Top Depth / Bottom Depth
SEWICKLEY COAL: 890 - 910	GENESEO: 6750 - 6797
PITTSBURGH COAL: 1031 - 1041	TULLY: 6797 - 6872
MAXTON: 2009 - 2059	HAMILTON: 6872 - 6921
BIG LIME: 2082 - 2112	MARCELLUS: 6921 - 6974
BIG INJUN: 2122	ONONDAGA: 6974 - n/a (TD'd before base)
BASE OF BIG INJUN: 2256	
WEIR: 2441 - 2611	
BEREA: 2629 - 2869	
GORDON: 2964 - 2994	
BENSON: 3668 - 3678	
JAVA: 5291 - 5611	
RHINESTREET: 6137 - 6473	Received
CASHAQUA: 6473 - 6605	Office of Oil & Gas
MIDDLESEX: 6605 - 6639	ADD 1
WEST RIVER: 6639 - 6750	AFH 1 2 2013

Fluid & Sand Volume Summary - Wayne #4H

<u>Date</u>	<u>Stage</u>	Perforate From	<u>d interval</u> <u>To</u>	Fluid Type	Frac Fluid	Pump Down	100 mesh	40/70 M	Total Sand	Avg Inj
		ft	ft		bbls	bbls	lbs	lbs	Öğ.	∼ BPM
7/16/2012	1	12066	12156	slk wtr	4100	20.3	48043	149031	997074	± 83
7/17/2012	2	11786	11996	sik wtr	7236	397	94110	283734	37844	¥ 82
7/19/2012	3	11486	11696	slk wtr	7408	721	93905	296065	389970	81
7/20/2012	4	11186	11396	slk wtr	7699	371	94048	310250	404298	81
7/21/2012	5	10886	11096	slk wtr	7352	326	95069	292209	387278	82
7/22/2012	6	10586	10796	slk wtr	7328	309	94005	278441	372446	81
7/23/2012	7	10286	10496	slk wtr	7018	288	93834	271760	365594	81
7/24/2012	8	9986	10196	slk wtr	7885	264	95096	299187	394283	81
7/25/2012	9	9686	9896	slk wtr	8841	212	95200	281974	377174	80
7/28/2012	10	9386	9596	slk wtr	7303	230	94520	134656	229176	80
7/29/2012	11	9086	9296	slk wtr	7300	201	94740	283847	378587	80
7/30/2012	12	8786	8996	slk wtr	7094	206	93484	297057	390541	80
7/31/2012	13	8486	8696	slk wtr	6694	153	94187	205027	299214	80
8/4/2012	14	8186	8396	slk wtr	6616	151	78884	124913	203797	80
8/5/2012	15	7886	8096	slk wtr	6969	121	79200	207608	286808	81
8/5/2012	16	7586	7796	sik wtr	5887	87	80251	85627	165878	81
8/6/2012	17	7286	7496	slk wtr	6931	73	79346	202986	282332	81
8/6/2012	18	7006	7196	slk wtr	6978	52	79746	221686	301432	80
	Totals				126639	4162	1577668	4226058	5803726	

Water to Recover 130801 bbls

## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	April 11, 2013
API#:	47-051-01553

rm name: Lily - South			Operator Well No.: 3H					
CATION: Elevation: 1272'			Quadrangle: New Martinsville 7.5'					
District: Franklin		Count	y: Marshall					
	Feet South of 39	Deg. 45	Min. 00	Sec.	<del> </del>			
Longitude 4195	Feet West of 80	Deg. 47	Min. 30	Sec.				
Company: Gastar Explor	ration USA, Inc.							
Address: 229 West Ma	nin Street, Suite 301	Casin Tubir			Left in well	Cement fill up Cu. Ft.		
Clarksburg, V	VV 26301	2	20"		110'	CTS		
Agent: Michael McCov	מע	13	-3/8"		1177'	1071		
Inspector: Bill Hende	ershot	9-	5/8"		2528'	1079		
Date Permit Issued: 6/1	/2012	5-	1/2"		12436'	3486		
Date Well Work Commer		2-	3/8"		6616'			
Date Well Work Complete	1011=10010							
Verbal Plugging:								
Date Permission granted	on:							
Rotary Cable	Rig _							
Total Vertical Depth (ft	): 6,503'							
Total Measured Depth (								
Fresh Water Depth (ft.):				·				
Salt Water Depth (ft.):	1600'							
Is coal being mined in are	a (N/Y)? N							
Coal Depths (ft.): 898-91								
Void(s) encountered (N/)								
PEN FLOW DATA (If more Producing formation Marcell Gas: Initial open flow 1560 Final open flow 2376  Time of open flow between	us _MCF/d Oil: Initial _MCF/d Final op	_Pay zone de open flow_100 en flow_128	pth (ft) 6503'	litional da	ta on separate s	heet)		
Static rock Pressure 1728	psig (surface press				ł	Received		
	· · · · · · · · · · · · · · · · · · ·	_			Office	of Oil & Gas		
Second producing formation				_		-		
Gas: Initial open flow Final open flow	_MCF/d Oil: Initial MCF/d Final op	open now en flow	Bbl/d Bbl/d		APR	1 2 2013		
Time of open flow between						2 2013		
Static rock Pressure								

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Date

Were core samples taken? YesNo_X	Were cuttings caught during drilling? Yes X No
Were Electrical, Mechanical or Geophysical logs recorded on ti GR, Mudlog, Acoust, Density, Induction, Mech. Prop. & XMAC	his well? If yes, please list
Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list  GR, Modeo, Account, Dennity, Induction, Mech. Prop. A 2004C  NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERV. FRACTURING OR STIMULATING, PHYSICAL CHANCE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMA DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUD COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.  Perforated Intervals, Fracturing, or Stimulating:  See attached page:  Plug Back Details Including Plug Type and Depth(s):  Formations Encountered: Top Depth / Bottom Depth Surface:  SEWICKLEY COAL: 898 - 918 GENESEO: 6702 - 6741  PITTSBURGH COAL: 1077 - 1087 TULLY: 6741 - 6806  MAXTON: 1971 - 2039 HAMILTON: 6806 - 6898  BIG LIME: 2040 - 2070 MARCELLUS: 6898 - 6951  BIG INJUN: 2079 ONONDAGA: 6951 - n/a (TD'd before based of the control of the cont	
Perforated Intervals, Fracturing, or Stimulating:	
See attached page:	
Plug Back Details Including Plug Type and Depth(s):	
	pth / Bottom Depth
SEWICKLEY COAL: 898 - 918	GENESEO: 6702 - 6741
PITTSBURGH COAL: 1077 - 1087	TULLY: 6741 - 6806
MAXTON: 1971 - 2039	HAMILTON: 6806 - 6898
BIG LIME: 2040 - 2070	MARCELLUS: 6898 - 6951
BIG INJUN: 2079	ONONDAGA: 6951 - n/a (TD'd before base)
BASE OF BIG INJUN: 2180	
WEIR: 2418 - 2588	
BEREA: 2597 - 2837	
GORDON: 2903 - 2933	Populari
BENSON: 3600 - 3610	Office of Oil & Gas
JAVA: 5200 - 5520	
RHINESTREET: 6124 - 6465	APR 1 2 2013
CASHAQUA: 6465 - 6582	
MIDDLESEX: 6582 - 6615	
WEST RIVER: 6615 - 6702	
· · · · · · · · · · · · · · · · · · ·	

### Fluid & Sand Volume Summary - Lily #3H

		Fluid & Sa	nd Volume	Summary - I	<u>-ily #3H</u>			٦ <u>د</u>	of Oil & Gas	
<u>Date</u>	Stage		d interval	Fluid Type	Frac Fluid	Pump	<u>100 mesh</u>	40/70 M	Office of Office	<u>Avg Inj</u>
		<u>From</u>	<u>To</u>			<u>Down</u>			AP AP	
		ft	ft		bbls	bbls	lbs			BPM
11/10/2012	1	12276	12300	slk wtr	3264	393	27510	93492	121002	81
11/11/2012	2	12147	12237	slk wtr	6428	380	78280	217995	296275	80
11/13/2012	3	11862	12112	slk wtr	7752	341	77535	163792	241327	80
11/14/2012	4	11562	11812	slk wtr	7069	305	77510	282187	359697	80
11/15/2012	5	11262	11512	slk wtr	7230	308	77701	282851	360552	81
11/16/2012	6	10962	11212	slk wtr	7178	296	77695	283661	361356	81
11/17/2012	7	10662	10912	slk wtr	6961	267	77619	285156	362775	82
11/18/2012	8	10362	10612	slk wtr	6620	243	78509	281902	360411	80
11/19/2012	9	10062	10312	slk wtr	7033	221	78124	285749	363873	81
11/20/2012	10	9762	10012	slk wtr	6945	196	77490	283975	361465	82
11/21/2012	11	9462	9712	slk wtr	7036	200	77664	282696	360360	81
11/24/2012	12	9162	9412	slk wtr	6946	160	79264	281606	360870	82
11/25/2012	13	8862	9112	slk wtr	6810	172	78142	281969	360111	81
11/26/2012	14	8562	8812	slk wtr	6766	207	78372	279473	357845	82
11/27/2012	15	8262	8512	sik wtr	6871	151	77626	278093	355719	80
11/28/2012	16	7962	8212	slk wtr	6760	142	77534	279768	357302	80
11/29/2012	17	7662	7912	slk wtr	6809	108	68529	257617	326146	80
11/20/2012	18	7362	7612	slk wtr	6802	90	75097	263713	338810	80
12/1/2012	19	7252	7322	slk wtr	6921	62	77535	269611	347146	80
	Totals				128201	4242	1417736	4935306	6353042	

Water to Recover 132443 bbls

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	April 11, 2013
API#:	47-051-01554

Farm name: Lily - North	Operator We	<del></del>		<del></del>	
LOCATION: Elevation: 1272	Quadrangle:	New Martinsville	7.5'		
District: Franklin	County: Mars				
	eg. 45 Min eg. 47 Min		ec.		
Longitude 4210 Feet West of 50 D	eg. 47 Mil	1.30 5	ec.		
Company: Gastar Exploration USA, Inc.					
Company.	Casing &	Used in	Left in well	Cement fill	٦
Address: 229 West Main Street, Suite 301	Tubing	drilling		up Cu. Ft.	_
Clarksburg, WV 26301	20"		110'	стѕ	_
Agent: Michael McCown	13-3/8"		1151'	1046	- OF
Inspector: Bill Hendershot	9-5/8"		2492'	1097	
Date Permit Issued: 6/1/2012	5-1/2"		12111'	3486	
Date Well Work Commenced: 9/4/2012	2-3/8"		6600'		
Date Well Work Completed: 12/17/2012					
Verbal Plugging:					1
Date Permission granted on:					7
Rotary Cable Rig					1
Total Vertical Depth (ft): 6,512'					1
Total Measured Depth (ft): 12,142'					1
Fresh Water Depth (ft.): 60'					1
Salt Water Depth (ft.): 1600'					1
Is coal being mined in area (N/Y)? N					7
Coal Depths (ft.): 898-918; 1077-1087					1
Void(s) encountered (N/Y) Depth(s) N					1
·				1	J
OPEN FLOW DATA (If more than two producing form	-		data on separate s	sheet)	
Producing formation Marcellus Producing formation Marcellus Producing formation Produc		bl/d	Re	ceived	
Final open flow 1656 MCF/d Final open f		b1/d	Office o	f Oil & Gas	
Time of open flow between initial and final tests 2					
Static rock Pressure 1635 psig (surface pressure	) after <u>264</u> Hou	ırs	APR 1	2 2013	
Second producing formation Pay	zone depth (ft)			2 -0.0	
Gas: Initial open flow MCF/d Oil: Initial open		Bbl/d			
Final open flow MCF/d Final open f		bl/d			
Time of open flow between initial and final tests_					
Static rock Pressurepsig (surface pressure	) afterHou	irs			
certify under penalty of law that I have personally examin	ed and am familia	r with the info	rmation submitted	d on this docume	nt and
all the attachments and that, based on my inquiry of those in	ndividuals immedi	iately responsi	ble for obtaining	the information I	believe
hat the information is true, accurate, and complete.			,		
Due Dah	•	1	4-11-13		
Signatur	re		Date		

were core samples taken? YesNo^	We	ere cuttings ca	aught di	iring drilling? Yes_^_ No					
Were Electrical, Mechanical or Geophysical logs record GR, Mudlog, Acousti, Density, Induction, Mech. Prop.& XMAC	Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list  GR, Mudlog, Acousti, Density, Induction, Mech. Prop.& XMAC								
NOTE: IN THE AREA BELOW PUT THE FRACTURING OR STIMULATING, PHYSICAL DETAILED GEOLOGICAL RECORD OF THE COAL ENCOUNTERED BY THE WELLBORE FI	CHANGE, ET TOPS AND	C. 2). THE V BOTTOMS	WELL OF A	LOG WHICH IS A SYSTEMATIC LL FORMATIONS, INCLUDING					
Perforated Intervals, Fracturing, or Stimulating:									
See attached page:									
Plug Back Details Including Plug Type and Depth(s):									
Formations Encountered: Surface:	Top Depth	1		Bottom Depth					
SEWICKLEY COAL: 898 - 918		GENESE	O: 67	702 - 6741					
PITTSBURGH COAL: 1077 - 1087		TULLY:	6741 -	6806					
MAXTON: 1971 - 2039		HAMILTO	N: 680	06 - 6898					
BIG LIME: 2040 - 2070		MARCEL	LUS:	6898 - 6951					
BIG INJUN: 2079		ONONDA	\GA:	6951 - n/a (TD'd before base)					
BASE OF BIG INJUN: 2180									
WEIR: 2418 - 2588									
BEREA: 2597 - 2837				Received					
GORDON: 2903 - 2933				Office of Oil & Gas					
BENSON: 3600 - 3610									
JAVA: 5200 - 5520				APR 1 2 2013					
RHINESTREET: 6124 - 6465									
CASHAQUA: 6465 - 6582									
MIDDLESEX: 6582 - 6615									
WEST RIVER: 6615 - 6702									

Fluid & Sand Volume Summary - Lily #4H

<u>Date</u>	Stage	<u>Perforate</u>	d interval	Fluid Type	Frac Fluid	Pump	100 mesh	40/70 M	Total Sand	Avg Ini
		<u>From</u>	<u>To</u>			<u>Down</u>				
		ft	ft		bbls	bbls	lbs	lbs	lbs	врм
11/10/2012	1	11973	11997	slk wtr	3177	460	27742	90138	117880	80
11/11/2012	2	11824	11914	slk wtr	7077	333	77885	285268	363153	80
11/12/2012	3	11539	11789	slk wtr	6980	345	77041	272071	349112	80
11/13/2012	4	11440	11488	slk wtr	6077	287	77881	110523	188404	80
11/15/2012	5	11338	11390	slk wtr	6534	299	78169	197681	275850	81
11/16/2012	- 6	10733	11300	slk wtr	7055	294	77617	283508	361125	81
11/17/2012	7	10535	10655	slk wtr	7056	265	77629	285195	362824	80
11/18/2012	8	10041	10470	slk wtr	6534	238	77544	284985	362529	80
11/19/2012	9	9786	9908	slk wtr	7000	191	77032	282871	359903	80
11/20/2012	10	9598	9718	slk wtr	6833	228	77742	265155	342897	82
11/21/2012	11	9403	9553	slk wtr	7042	242	77022	283628	360650	81
11/24/2012	12	9208	9375	slk wtr	7384	173	77240	280786	358026	81
11/26/2012	13	8702	9055	slk wtr	6748	179	77632	247163	324795	80
11/27/2012	14	8384	8567	slk wtr	4677	206	5581	0	5581	66
11/28/2012	15	8239	8350	slk wtr	6495	191	64977	239870	304847	80
11/29/2012	16	8088	8195	slk wtr	7287	127	77832	152689	230521	81
11/30/2012	17	7287	7800	slk wtr	6992	377	77498	286161	363659	80
12/1/2012	18	7286	7800	slk wtr	6979	119	77540	280408	357948	80
•	APR	, J								
•	Totals 2	eceive			117927	4554	1261604	4128100	5389704	
	& Gas 2013	ä		Water to	Recover	122481	bbls			

## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	6/7/13
API#:	47-049-01980

n name: Rochester & Pitts. Coal	_ '	II No.: Crim 21				
CATION: Elevation: 1221'	Quadrangle: Shinnston 7.5'					
District: Lincoln	_ County: Mar	ion				
Latitude: 10460' Feet South of 39 Deg.	. 30 Mi		ec.			
Longitude 2970' Feet West of 80 Deg	g. 17 Min	n, 30 S	ec.			
Company: XTO Energy, Inc.						
Address: PO Box 1008, Jane Lew, WV 26378	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.		
	16"	80'	80'	CTS		
Agent: Gary Beall						
Inspector: Tristan Jenkins						
Date Permit Issued: 9/24/2008						
Date Well Work Commenced: 2/27/2009						
Date Well Work Completed: 3/2/2009						
Verbal Plugging:						
Date Permission granted on:			BEG	WED		
Rotary Cable Rig			Office of	Dil e Coo		
Total Vertical Depth (ft): 150' - Plugged			1.000	Pir & Clas		
Total Measured Depth (ft): 150' - Plugged			JUN 1	2 2013		
Fresh Water Depth (ft.): None						
Salt Water Depth (ft.): NA			WV Depa	tment of		
Is coal being mined in area (N/Y)? N		Er	vironment	l Protection		
Coal Depths (ft.): NA						
Void(s) encountered (N/Y) Depth(s) N						
PEN FLOW DATA (If more than two producing format Producing formation None - Plugged Pay Gas: Initial open flow MCF/d Oil: Initial open Final open flow MCF/d Final open flo Time of open flow between initial and final tests Static rock Pressure psig (surface pressure) a  Second producing formation Pay 2 Gas: Initial open flow MCF/d Oil: Initial open	zone depth (ft) flow B Hour after Ho cone depth (ft) flow I	NA Bbl/d sbl/d rs urs	data on separate si	neet)		
Final open flow MCF/d Final open flo	wB	bl/d				
Time of open flow between initial and final tests						

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

<u>(-7-1</u>3)

Were core samples taken? Ye	sNo_X	Were cutti	ngs caught during drilling? Y	resNo_X
Were Electrical, Mechanical or	Geophysical logs recorde	ed on this well? If yes	, please list No	
NOTE: IN THE AREA E FRACTURING OR STIMUI DETAILED GEOLOGICAL COAL ENCOUNTERED BY	LATING, PHYSICAL O RECORD OF THE	CHANGE, ETC. 2). T TOPS AND BOTT	THE WELL LOG WHICH OMS OF ALL FORMATI	IS A SYSTEMATIC
Perforated Intervals, Fracturing	, or Stimulating:			
No completion - well p	lugged			
NII. III.				
Plug Back Details Including Plu	g Type and Depth(s):			
Santa and the				
Formations Encountered; Surface;		Pop Depth	/ В	ottom Depth
Surface/Dirt/Rock	0' - 150' *Unkr	nown Obstruction	on at 150'	140-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-
			Alexandra Africa and an analysis and a second	

## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE: 3/27/13 API #: 47-49-02161-RB

OCATION: Elevation: 1256	-	l No. <u>:</u> Brennan Mannington 7.5					
District: Lincoln	County: Marion						
Latitude: 15020 Feet South of 39 Deg.	32 Min	. 30 Sec	c.	<del></del>			
Longitude 1100 Feet West of 80 Deg.		Sec	<b>C.</b>	•			
Company: XTO Energy Inc							
Address: PO Box 1008, Jane Lew, WV 26378	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.			
	20"	40'	40'	CTS			
Agent: Gary Beall	13-3/8"	636'	636'	531 sx.			
Inspector: Bill Hendershot	9-5/8"	3101'	3101'	1042 sx.			
Date Permit Issued: 2/24/2012	5-1/2"	11309'	11309'	1650 sx.			
Date Well Work Commenced: 5/1/2012							
Date Well Work Completed: 1/6/2013							
Verbal Plugging:							
Date Permission granted on:			}				
Rotary Cable Rig							
Total Vertical Depth (ft): 7655'				·			
Total Measured Depth (ft): 11305'				- cds			
Fresh Water Depth (ft.): 65'			Office of O	80.79 C			
Sale Water Daniel (A.). None Noted			of Co	NO.			
Is coal being mined in area (N/Y)? N			600	of July			
Coal Depths (ft.): 140'			Office	0 200 C			
Void(s) encountered (N/Y) Depth(s) N			\beta_t	all bro			
Is coal being mined in area (N/Y)?  Coal Depths (ft.): 140'  Void(s) encountered (N/Y) Depth(s) N  OPEN FLOW DATA (If more than two producing formation Producing formation Marcellus Pay Gas: Initial open flow N/A MCF/d Oil: Initial open flow Time of open flow between initial and final tests N/A Static rock Pressure psig (surface pressure) at Second producing formation Pay zo Gas: Initial open flow MCF/d Oil: Initial open flow Gas: Initial open flow MCF/d Oil: Initial open flow MCF/d Final open flow MCF/d Final open flow MCF/d Final open flow MCF/d Final open flow Time of open flow between initial and final tests	ne depth (ft)B flowB wBt	bl/d bl/d	ata on separate	Journe Mary			

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

3-28-13 Date (8)

Were core samples taken?	Yes No_X	Were c	cuttings caught during	g drilling? Yes_X	No
Were Electrical, Mechanical	or Geophysical logs reco	orded on this well? If	yes, please list GR,	ROP, VS, TVD, M	IWD, Mud logs
NOTE: IN THE AREA FRACTURING OR STIM DETAILED GEOLOGICA COAL ENCOUNTERED F	IULATING, PHYSICA AL RECORD OF TH	L CHANGE, ETC. 2 IE TOPS AND BO	2). THE WELL LO TTOMS OF ALL	G WHICH IS A S FORMATIONS,	SYSTEMATIC
Perforated Intervals, Fracturia	ng, or Stimulating:				
Stg 1 Marcellus; 11,022'-11236'; 60 shots	s; Slick water frac; Avg treating 7	091 psi@ 82 bpm; 101,428 #s	3 100 mesh; 299,829 #s 30/	50 mesh; 10022 bbl water	r, 0 bbl treated water
Stg 2 Marcellus; 10728'-10242'; 60 shots	s; Slick water frac; Avg treating 7:	240 psi@ 81 bpm; 100,040 #	s 100 mesh; 299,882 #s 30.	/50 mesh; 9814 bbl water	r, 0 bbl treated water
Stg 3 Marcellus; 10,434'-10,648'; 60 shot	ts; Slick water frac; Avg treating 7	7148 psi@ 83 bpm; 100,553 #	/s 100 mesh; 300,881 #s 30	1/50 mesh; 9797 bbl water	r, 0 bbl treated water
Stg 4 Marcellus; 10,140'-10354'; 60 shots	ts; Slick water frac; Avg treating 7	'239 psi@ 78 bpm; 101,833 #	s 100 mesh; 300,483 #s 30	/50 mesh; 9920 bbl water	r, 0 bbl treated water
Stg 5 Marcellus; 9846'-10060'; 60 shots;	; Slick water frac; Avg treating 72	289 psi@ 86 bpm; 104,593 #s	3 100 mesh; 301,007 #s 30/	/50 mesh; 9921 bbl water	, 0 bbl treated water
Stg 6 Marcellus; 9552'-9766'; 60 shots;	Slick water frac; Avg treating 710	69 psi@ 83 bpm; 101,639 #s	100 mesh; 302,463 #s 30/	50 mesh; 9844 bbl water	, 0 bbl treated water
Plug Back Details Including I	Plug Type and Depth(s):				
Formations Encountered:		Top Depth	/	Bottom	<u>Depth</u>
Surface:					•
See attached sheet.					
					•
	•	· · · · · · · · · · · · · · · · · · ·			
					•
					······································

Brennan A 1H - RB	47-049-02161 - RB				
Formations Encountered	Top Depth	<b>Bottom Depth</b>			
Surface:					
SS,SLT,SH	0	80			
SS	80	128			
SH	128	140			
COAL	140	150			
SS,SH	150	170			
SH	170	178			
SS	178	202			
SS,SH	202	460			
SH	460	506			
SS	506	525			
SS,SH	525	700			
SH,SS	700	1025			
SH	1025	1165			
SH,SS	1165	1265			
SH	1265	1830			
SS	1830	2070			
SH	2070	2100			
SH,SS	2100	2540			
SS	2540	2700			
SH	2700	3160			
	3160	3420			
SH,SS					
SS,SH	3420	3540			
SS	3540	3600			
SS,SLTST	3600	3660			
SH,SLTST,SS	3660	3800			
SH,SLTST	3800	3820			
SH,SLTST,SS	3820	3850			
SH,SLTST	3850	3940			
SLTST,SH	3940	3990			
SH,SLTST	3990	4230			
SH	4230	4250			
SH,SLTST	4250	4650			
SLTST,SH	4650	4920			
SH,SLTST	4920	5130			
SH	5130	5200			
SH,LS	5200	5270			
SH	5270	5300			
SH,SLTST	5300	5360			
SH	5360	5450			
SH,SLTST	5450	5520			
SH	5520	6030			
SH,SLTST	6030	6060			
SH,LS	6060	6090			
SH	6090	7367			
Geneseo	7367	7420			
Tully	7420	7467			
Hamilton	7467	7527			
Marcellus	7527	11325			

### BRENNAN A 1H-RB

49-2161

	11-01/01
FORMATION	TVD
BIG INJUN*	1951
BIG INJUN BASE*	2017
GREENBRIER*	2047
GREENBRIER BASE*	2081
SQUAW*	2090
SQUAW BASE*	2101
GANTZ*	2489
GANTZ BASE*	2506
50FT*	2537
50FT BASE*	2635
30FT*	2649
30FT BASE*	2698
GORDON*	. 2717
GORDON BASE*	2743
LWR GÖRDON*	2849
LWR GORDON BASE*	2892
4TH SAND*	2924
4TH SAND BASE*	2931
5TH SAND*	2983
5TH SAND BASE*	3018
LWR SPEECHLEY*	3603
LWR SPEECH. BASE*	3623
UP BALLTOWN*	3823
UP BALLTOWN BASE*	3836
BALLTOWN*	3887
BALLTOWN BASE*	3918
GENESEO SHALE	7367
GENESEO BASE	. 7420
TULLY LIMESTONE	7420
TULLY BASE	7467
HAMILTON SHALE	7467
HAMILTON BASE	7527
UPPER MARCELLUS	7527
UP MARCELLUS BASE	7616
PURCELL LIMESTONE	7616
PURCELL BASE	7621
LOWER MARCELLUS	7621
LO MARCELLUS BASE**	7677

<sup>\*</sup> Tops projected from offset log due to air drilling and therefore not logging this section

<sup>\*\*</sup> Base projected from offset logs due to not actually drilling through this base

Well Name: Brennan A 1H

API # . 47-049-02161

**Preforated Intervals, Fracturing or Stimulating** 

Stg 7 Marcellus; 9258'-9472'; 60 shots; Slick water frac; Avg treating 7236 psi@ 82 bpm; 102,344 #100 mesh; 300,256 #s 30/50 mesh; 9915 bbl water, 0 bbl treated water

Stg 8 Marcellus; 8964'-9178'; 60 shots; Slick water frac; Avg treating 7300 psi@ 80 bpm; 101,343 #100 mesh; 303,364 #s 30/50 mesh; 9726 bbl water, 0 bbl treated water

Stg 9 Marcellus; 8670'-8884'; 60 shots; Slick water frac; Avg treating 7243 psi@ 80 bpm; 100,461 #100 mesh; 303,746 #s 30/50 mesh; 9634 bbl water, 0 bbl treated water

Stg 10 Marcellus; 8376'-8590'; 60 shots; Slick water frac; Avg treating 7455 psi@ 85 bpm; 101,720 #100 mesh; 299,830 #s 30/50 mesh; 9653 bbl water, 0 bbl treated water

Stg 11 Marcellus; 8082'-8296'; 60 shots; Slick water frac; Avg treating 7353 psi@ 82 bpm; 106,020 #100 mesh; 304,414 #s 30/50 mesh; 9549 bbl water, 0 bbl treated water

## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	3/27/2013	
API#:	47-4902162	

0. mrov. m 1056		11	r	
CATION: Elevation: 1256	_ Quadrangle: _	Mannington 7	.5	<del></del>
District: Lincoln	County: Ma			
Latitude: 15010 Feet South of 39 Deg.				
Longitude 1090 Feet West of 80 Deg	. <u>17</u> Min	1. <u>30</u> Sec	<b>3.</b>	•
Company: XTO Energy Inc	<u> </u>		<del></del>	
Address: PO Box 1008, Jane Lew, WV 26378	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
	20"	40'	40'	CTS
Agent: Gary Beall	13-3/8"	622'	622'	600 sx
Inspector: Bill Hendershot	9-5/8"	3128'	3128'	1052 sx
Date Permit Issued: 6/21/2011	5-1/2"	11949'	11949'	1735 sx
Date Well Work Commenced: 1/11/2012				
Date Well Work Completed: 1/8/2013				
Verbal Plugging:			100	C45
Date Permission granted on:			CEIVE	19 <sub>00</sub>
Rotary Cable Rig			SECOILO	
Total Vertical Depth (ft): 7662'			SECENTER OF THE PROPERTY OF TH	50/3
Total Measured Depth (ft): 11949'			158 a	sent of
Fresh Water Depth (ft.): 65'				Officions.
Salt Water Depth (ft.): None Noted			O VIA	ortment of
Is coal being mined in area (N/Y)? N			a NOUL	
Coal Depths (ft.): 140'			Eur	
Void(s) encountered (N/Y) Depth(s) N				
OPEN FLOW DATA (If more than two producing formation Producing formation Marcellus Pay Gas: Initial open flow N/A MCF/d Oil: Initial open flow Final open flow 891 MCF/d Final open flow Time of open flow between initial and final tests N/Static rock Pressure psig (surface pressure) a	zone depth (ft) flow B w B W Hours	7535-7670 bl/d bl/d s	ata on separate sl	neet)
	1 .1 (0)			
Second producing formation Pay 20	nne denth (ff)			
Second producing formation Pay zo Gas: Initial open flow MCF/d Oil: Initial open flow		bl/d		•

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Static rock Pressure \_\_\_\_\_psig (surface pressure) after \_\_\_\_\_Hours

Signature

3-28-13 Date(2

Were core samples taken? YesNoX	Were cuttings of	caught during drilling? Yes	sX_No
Were Electrical, Mechanical or Geophysical logs recorded	on this well? If yes, plea	ase list GR, ROP, Directional Su	rvey, Total Gas, Mudlogs
NOTE: IN THE AREA BELOW PUT THE FO FRACTURING OR STIMULATING, PHYSICAL CH DETAILED GEOLOGICAL RECORD OF THE TO COAL ENCOUNTERED BY THE WELLBORE FRO	ANGE, ETC. 2). THE OPS AND BOTTOMS	WELL LOG WHICH IS S OF ALL FORMATION	S A SYSTEMATIC
Perforated Intervals, Fracturing, or Stimulating:			
Stg 1 Marcellus; 11639'-11873'; 60 shots; Slick water frac; Avg treating 825	i4 psi@ 32 bpm; 0 #100 mesh;	, 5000 #s 30/50 mesh; 3304 bbl w	vater, 0 bbl treated water
Stg 2 Marcellus; 11395'-11525'; 60 shots; Slick water frac; Avg treating 7444 psi	<u>Э</u> 72 bpm; 106,171 #100 mesh; 3	305,407 #s 30/50 mesh; 106,171 bb	water, 0 bbl treated water
Stg 3 Marcellus; 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'; 60 shots; Slick water frac; Avg treating 8147 pages 11014'-11229'-11	i@ 74 bpm; 87,700 #100 mesh;	18,100 #s 30/50 mesh; 11,295 bbl	water, 0 bbl treated water
Stg 4 Marcellus; 10716'-10914'; 60 shots; Slick water frac; Avg treating 7253 ps	@ 79 bpm; 107,163 #100 mesh;	307,952 #s 30/50 mesh; 13115 bbl	water, 0 bbl treated water
Stg 5 Marcellus; 10430'-10616'; 60 shots; Slick water frac; Avg treating 7670 psi	@ 71 bpm; 105,863 #100 mesh;	310,020 #s 30/50 mesh; 14,469 bbl	water, 0 bbl treated water
Stg 6 Marcellus; 10180'-10328'; 60 shots; Slick water frac; Avg treating 7559 psi	@ 68 bpm; 105,004 #100 mesh;	304,819 #s 30/50 mesh; 14,459 bbl	water, 0 bbl treated water
Plug Back Details Including Plug Type and Depth(s):			
Formations Encountered: To Surface:	pp Depth /	Во	ttom Depth
See attached sheet.			
Oce attached sheet.			
			<del></del>
			,,
			•
		<del></del>	
			<del></del>
			•

Brennan A 2H	47-049-021	52
Formations Encountered	Top Depth	<b>Bottom Depth</b>
SS,SLT,SH	0	80
SS	80	128
SH	128	140
COAL	140	150
SS,SH	150	170
SH	170	178
SS	178	202
SS,SH	202	460
SH	460	506
SS	506	525
SS,SH	525	700
SH,SS	700	1025
SH	1025	1165
SH,SS	1165	1265
SH	1265	1830
SS	1830	2070
SH	2070	2100
SH,SS	2100	2540
SS	2540	2700
SH	2700	3170
SLTST,SS	3170	3220
SH,SLTST	3220	3840
SH	3840	3870
SH,SLTST	3870	3990
ISH	3990	4050
SH,SLTST	4050	4110
SH,SLTST,SS	4110	4170
SH	4170	4320
SH,SLTST	4320	4350
SLTST,SS,SH	4350	4380
SH	4380	4440
SH,SLTST	4440	4470
SH	4470	4950
SH,SLTST	4950	4980
SH	4980	5220
SH, SLTST	5220	5280
SH	5280	5610
SH, SLTST	5610	5700
SH	5700	5760
SH, SLTST	5760	5790
SH	5790	5880
SH, SLTST	5880	5910
SH	5910	6480
SH,SLTST	6480	6510
SH	6510	7550
LS,SH	7550	7680
SH	7680	7720
SH,LS	7720	7790
SH	7790	8150
SH,LS	8150	8200
011,20	1 0100	0200

### **BRENNAN A 2H**

FORMATION	TVD
BIG INJUN*	1955
BIG INJUN BASE*	2021
GREENBRIER*	2051
GREENBRIER BASE*	2085
SQUAW*	2094
SQUAW BASE*	2105
GANTZ*	2493
GANTZ BASE*	2510
50FT*	2541
50FT BASE*	2639
30FT*	2653
30FT BASE*	2702
GORDON*	2721
GORDON BASE*	2747
LWR GORDON*	2853
LWR GORDON BASE*	2896
4TH SAND*	2928
4TH SAND BASE*	2935
5TH SAND*	2987
5TH SAND BASE*	3022
LWR SPEECHLEY*	3607
LWR SPEECH. BASE*	3627
UP BALLTOWN*	3827
UP BALLTOWN BASE*	3840
BALLTOWN*	3891
BALLTOWN BASE*	3922
GENESEO SHALE	7371
GENESEO BASE	7425
TULLY LIMESTONE	7425
TULLY BASE	7469
HAMILTON SHALE	7469
HAMILTON BASE	7533
UPPER MARCELLUS	7533
UP MARCELLUS BASE	7632
PURCELL LIMESTONE	7632
PURCELL BASE	7635
LOWER MARCELLUS	7635
LO MARCELLUS BASE**	7683

<sup>\*</sup> Tops projected from offset log due to air drilling and therefore not logging this section

<sup>\*\*</sup> Base projected from offset logs due to not actually drilling through this base

 SH
 8200
 8300

 SH,LS
 8300
 8320

 SH
 8320
 11995

49-2162

Well Name: Brennan A 2H

API# 47-049-02162

#### **Preforated Intervals, Fracturing or Stimulating**

Stg 7 Marcellus;9930 '-10032'; 60 shots; Slick water frac; Avg treating 7390 psi@ 73 bpm; 106,767 #100 mesh; 306,694 #s 30/50 mesh; 9628 bbl water, 0 bbl treated water

Stg 8 Marcellus; 9632'-9734'; 60 shots; Slick water frac; Avg treating 7355 psi@ 78 bpm; 102,209 #100 mesh; 305,744 #s 30/50 mesh; 9657 bbl water, 0 bbl treated water

Stg 9 Marcellus; 9337'-9439'; 60 shots; Slick water frac; Avg treating 7169 psi@ 74 bpm; 105,843 #100 mesh; 304,991 #s 30/50 mesh; 9890 bbl water, 0 bbl treated water

Stg 10 Marcellus; 9041'-9143'; 60 shots; Slick water frac; Avg treating 7281 psi@ 72 bpm; 106,241 #100 mesh; 305,053 #s 30/50 mesh; 9647 bbl water, 0 bbl treated water

Stg 11 Marcellus; 8747'-8847'; 60 shots; Slick water frac; Avg treating 7451 psi@ 82 bpm; 106,600 #100 mesh; 304,900 #s 30/50 mesh; 9735 bbl water, 0 bbl treated water

Stg 12 Marcellus; 8622'-8844'; 60 shots; Slick water frac; Avg treating 7717 psi@ 79 bpm; 106,200 #100 mesh; 305,400 #s 30/50 mesh; 9583 bbl water, 0 bbl treated water

Stg 13 Marcellus; 7602'-7635'; 60 shots; Slick water frac; Avg treating 7551 psi@ 82 bpm; 99,962 #100 mesh; 336,632 #s 30/50 mesh; 10271 bbl water, 0 bbl treated water

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WR-35 Rev (9-11)

## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	3/27/2013	
API#:	47-4902166	

TON: Elevation: 1256	_ Quadrangle: _	Mannington 7	.5	
District: Lincoln	County: Mari	on		
Latitude: 1070 Feet South of 39 Deg.	32 Min			<del></del>
	. <u>17 Min</u>	. <u>30</u> Sec	<b>.</b>	
Company: XTO Energy Inc		<u>,</u>		
PO Box 1008, Jane Lew, WV 26378	Casing &	Used in	Left in well	Cement fill
Address: FO Box 1008, Jane Lew, W V 20378	Tubing 20"	drilling 81'	81'	up Cu. Ft.
Agent. Gary Beall		<del></del>	<del> </del>	<del></del>
rigoni	13-3/8"	619'	619'	260 sx
Inspector: Bill Hendershot	9-5/8"	3135'	3135'	527 sx
Date Permit Issued: 9/22/2011	5-1/2"	10802'	10802'	1788 sx
Date Well Work Commenced: 11/19/2011				
Date Well Work Completed: 1/8/2013				
Verbal Plugging:	<u> </u>			
Date Permission granted on:				
Rotary Cable Rig				1
Total Vertical Depth (ft): 7667				
Total Measured Depth (ft): 10788			~	MED Y GO.
Fresh Water Depth (ft.): 65'			SEC	Jil Oth
			- #COO)	WED d GOS
Is seed being mined in cree (N/V)?			Oile	801
Cool Dowths (A), 140' 440'	-		<del>                                     </del>	timer
Will Depuis (it.): 110; 110				Debought Su
Void(s) encountered (N/Y) Deptin(s)	<u> </u>	<u> </u>	- il	-UUGIII
N FLOW DATA (If more than two producing format	ions please inclu	de additional d	ata on separetis	heet)
roducing formation Marcellus Pay	zone depth (ft)	7535-7670	•	
as: Initial open flow N/A MCF/d Oil: Initial open	flowB	bl/d .1/d		
Salt Water Depth (ft.): None Noted  Is coal being mined in area (N/Y)? N  Coal Depths (ft.): 140', 440'  Void(s) encountered (N/Y) Depth(s) N  N FLOW DATA (If more than two producing formation Marcellus Pay as: Initial open flow N/A MCF/d Oil: Initial open Final open flow 3651 MCF/d Final open flow Time of open flow between initial and final tests Next cock Pressure Page (Surface pressure) and the state of the state o	/A Hours	i i		
tatic rock Pressure psig (surface pressure)	afterHou	rs		
- · · · · · · · · · · · · · · · · · · ·				

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Time of open flow between initial and final tests\_

Static rock Pressure \_\_\_\_\_psig (surface pressure) after \_\_\_\_\_Hours

Hours

Signature

Date 63

Were core samples taken? Yes	ло_ <b>х</b>	Were cuttings caught during	g drilling? Yes	NoX
Were Electrical, Mechanical or Geophysic	cal logs recorded on this we	ell? If yes, please list		
NOTE: IN THE AREA BELOW FRACTURING OR STIMULATING, DETAILED GEOLOGICAL RECOR COAL ENCOUNTERED BY THE WI	PHYSICAL CHANGE, E RD OF THE TOPS ANI ELLBORE FROM SURFA	ETC. 2). THE WELL LO D BOTTOMS OF ALL	G WHICH IS A S' FORMATIONS,	YSTEMATIC
Perforated Intervals, Fracturing, or Stimul	ating:			
Stg 1 Marcellus; 10494'-10716'; 60 shots; Slick water fra	c; Avg treating 7394 psi@ 86 bpm; 1	105,643 #100 mesh; 316,520 #s 30/	50 mesh; 9838 bbl water,	0 bbl treated water
Stg 2 Marcellus; 10182'-10404'; 60 shots; Slick water fra	c; Avg treating 7380 psi@ 81 bpm; 1	107,295 #100 mesh; 308,184 #s 30/	50 mesh; 9941 bbl water,	0 bbl treated water
Stg 3 Marcellus; 9870'-10092'; 60 shots; Slick water frac	c; Avg treating 7502 psi@ 83 bpm; 8	38,303 #100 mesh; 241,316 #s 30/5	50 mesh; 8371 bbl water,	0 bbl treated water
Stg 4 Marcellus; 9558'-9780'; 60 shots; Slick water frac	; Avg treating 7533 psi@ 82 bpm; 8	6,130 #100 mesh; 250,925 #s 30/5	i0 mesh; 8822 bbl water, (	D bbl treated water
Stg 5 Marcellus; 9246'-9468'; 60 shots; Slick water frac	; Avg treating 7426 psi@ 84 bpm; 8	9,018 #100 mesh; 263,303 #s 30/5	i0 mesh; 8971 bbl water, (	0 bbl treated water
Stg 6 Marcellus; 8934'-9156'; 60 shots; Slick water frac; Plug Back Details Including Plug Type an		7,700 #100 mesh; 262,600 #s 30/5	0 mesh; 8818 bbl water, (	0 bbl treated water
Formations Encountered: Surface:	Top Depth	/	Bottom J	<u>Depth</u>
·				

Brennan A 3H	47-049-021	166
Formation Name or Type	<del></del>	Bottom
SS,SLT,SH	<b>Top</b> 0	80
SS	<del> </del>	
SH	80	128
COAL	128	140
SS,SH	140	150
	150	170
SH	170	178
SS	178	202
SS,SH	202	440
Coal	440	460
SS,SH	460	700
SH	700	770
SS,SH	770	2850
SH	2850	2890
SH,SS	2890	3152
SH,SLTST	3152	3200
SH	3200	3230
SH,SLTST	3230	3350
SLTST,SS,SH	3350	3380
SH,SLTST	3380	3440
SLTST, SH,SS	3440	3480
SH,SLTST	3480	3530
SH	3530	3560
SH,SLTST	3560	3590
SH,SS,SLTST,LS	3590	3650
SH, SLTST	3650	3740
SH	3740	3800
SH,SLTST	3800	3860
SH, tr SLST and SS	3860	3890
SH	3890	3950
SH, SLTST, SS	3950	3980
SH w/ tr SLST	3980	4040
SH and SLST	4040	4220
SH	4220	4670
SH and SLST	4670	5080
SH, SLTST, SS	5080	5110
SH and SLST	5110	5240
SH	5240	5300
SH and SLST	5300	5240
SH	5240	5300
SH and SLST	5300	5390
SH	5390	5450
SH w/ tr SLST	5450	5480
SH	5480	6590
SH and SLST	6590	6650
SH	6650	7450
LS and SH	7450	7550
SH, LS	7550	7650
SH	7650	7680
SH,LS	7680	7710
SH	7710	7870

### BRENNAN A 3H

49-2146

FORMATION	TVD
BIG INJUN*	1950
BIG INJUN BASE*	2016
GREENBRIER*	2046
GREENBRIER BASE*	2080
SQUAW*	2089
SQUAW BASE*	2100
GANTZ*	2488
GANTZ BASE*	2505
50FT*	2536
50FT BASE*	2634
30FT*	2648
30FT BASE*	2697
GORDON*	2716
GORDON BASE*	2742
LWR GORDON*	2848
LWR GORDON BASE*	2891
4TH SAND*	2923
4TH SAND BASE*	2930
5TH SAND*	2982
5TH SAND BASE*	3017
LWR SPEECHLEY*	3602
LWR SPEECH. BASE*	3622
UP BALLTOWN*	3822
UP BALLTOWN BASE*	3835
BALLTOWN*	3886
BALLTOWN BASE*	3917
GENESEO SHALE	7379
GENESEO BASE	7423
TULLY LIMESTONE	7423
TULLY BASE	7466
HAMILTON SHALE	7466
HAMILTON BASE	7536
UPPER MARCELLUS	7536
UP MARCELLUS BASE	7623
PURCELL LIMESTONE	7623
PURCELL BASE	7626
LOWER MARCELLUS	7626
	7686

<sup>\*</sup> Tops projected from offset log due to air drilling and therefore not logging this section

<sup>\*\*</sup> Base projected from offset logs due to not actually drilling through this base

 SH,LS
 7870
 7900

 SH
 7900
 10780

49-2166

Well Name: Brennan A 3H

API# 47-049-02166

**Preforated Intervals, Fracturing or Stimulating** 

49.2166

Stg 7 Marcellus; 8622'-8844'; 60 shots; Slick water frac; Avg treating 7498 psi@ 85 bpm; 88,200 #100 mesh; 262,400 #s 30/50 mesh; 8794 bbl water, 0 bbl treated water

Stg 8 Marcellus; 7656'-7661'; 60 shots; Slick water frac; Avg treating 7499 psi@ 82 bpm; 106,254 #100 mesh; 3024,064 #s 30/50 mesh; 10370 bbl water, 0 bbl treated water

WR-35 Rev (9-11)

## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	3/27/2013	
API#:	47-4902209	_

Farm name: Bower, Richard a				-				Unit A 7H	
LOCATION: Elevation: 125	0			Quadra	ngle: <u>N</u>	lanningto	n 7.5		
District: Lincoln				County	: Mario	n			
Latitude: 15030	Feet South of	39	Deg.	32	Min.		Sec.		
Longitude 1120	Feet West of	80	Deg.		Min.	30	_Sec.		
Company: XTO Ene	rgy Inc								
202				Casing	&	Used in		Left in well	Cem

Address: PO Box 1008, Jane Lew, WV 26378	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
	20"	40'	40'	CTS
Agent: Gary Beall	13-3/8"	635'	635'	532 sx
Inspector: Bill Hendershot	9-5/8"	3014'	3014'	1040 sx
Date Permit Issued: 5/18/2012	5-1/2"	12999'	12999'	1910 sx
Date Well Work Commenced: 6/18/2012				•
Date Well Work Completed: 1/4/13				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig		1	RECEIVE	Ī.,
Total Vertical Depth (ft): 7588'		Onl	ce of Oil 3	Gas
Total Measured Depth (ft): 12646'			APR 0 1 201	
Fresh Water Depth (ft.): 65'			T LON	
Salt Water Depth (ft.): None Noted		WV	Departme	nt of
Is coal being mined in area (N/Y)?			mental Pr	
Coal Depths (ft.): 140'				
Void(s) encountered (N/Y) Depth(s) N				

Producing formation Marcell	us Pay zone de	epth (ft) 7535-7655
Gas: Initial open flow N/A	MCF/d Oil: Initial open flow	Bbl/d
Final open flow 3095	MCF/d Final open flow	Bbl/d
Time of open flow betwee	n initial and final tests N/A	Hours
Static rock Pressure	_psig (surface pressure) after	Hours
Second producing formation_	Pay zone dept	th (ft)
O 7 111 1 0	MCF/d Oil: Initial open flow	Bbl/d
Gas: Initial open flow	or a our minum open non	
•	MCF/d Final open flow	
Final open flow		Bbl/d

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

Were core samples taken? YesNo_	X Were	e cuttings caught during	g drilling? Yes_XNo
Were Electrical, Mechanical or Geophysical	logs recorded on this well?	If yes, please list_GR, R	OP, Directional Survey, Total Gas, Mudio
NOTE: IN THE AREA BELOW PU FRACTURING OR STIMULATING, PH DETAILED GEOLOGICAL RECORD COAL ENCOUNTERED BY THE WELL Perforated Intervals, Fracturing, or Stimulating	HYSICAL CHANGE, ETC OF THE TOPS AND B LBORE FROM SURFACE	2. 2). THE WELL LOGOTTOMS OF ALL	G WHICH IS A SYSTEMATI FORMATIONS, INCLUDIN
Stg 1 Marcellus; 12353'-12575'; 60 shots; Slick water frac; A		88 #100 mesh: 313.472 #s 30/	50 mesh: 9975 bbl water 0 bbl treated wat
Stg 2 Marcellus; 12048'-12270'; 60 shots; Slick water frac; Av			
Stg 3 Marcellus; 11743'-11965'; 60 shots; Slick water frac; A		<del></del>	<del></del>
Stg 4 Marcellus; 11438'-11660'; 60 shots; Slick water frac; A			
Stg 5 Marcellus; 11133'-11355'; 60 shots; Slick water frac; A	vg treating 7417 psi@ 83 bpm; 106,3	18 #100 mesh; 316,778 #s 30/	50 mesh; 9831 bbl water, 0 bbl treated wat
Stg 6 Marcellus; 10828'-11050'; 60 shots; Slick water frac; A	vg treating 7446 psi@ 82 bpm; 106,3	78 #100 mesh; 317,795 #s 30/	50 mesh; 9848 bbi water, 0 bbi treated wat
Plug Back Details Including Plug Type and I	Depth(s):		
Formations Encountered: Surface:	Top Depth	/	Bottom Depth
See attached sheet.			
	·	RE(	CEIVED
		Ouice C	of Oil & Gas
			<del>0 1 2013</del>
		WV Den	artmont of
<del></del>	<del></del>	Environmen	artment of otal Protection
		<del></del>	orection

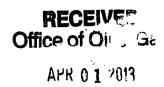
49-2209

Brennan Unit A 7H	47-049-022	209
Formation Name or Type	Тор	Bottom
SS,SLT,SH	0	80
SS	80	128
SH	128	140
COAL	140	150
SS,SH	150	170
SH	170	178
SS	178	202
SS,SH	202	460
SH	460	506
SS	506	525
SS,SH	525	700
SH,SS	700	1025
ISH	1025	1165
SH,SS	1165	1265
SH	1265	
	<del></del>	1830
SS	1830	2070
SH	2070	2100
SH,SS	2100	2540
SS	2540	2700
SH	2700	3170
SLTST,SS	3170	3240
SH, SLST	3240	3270
SH, SS, SLTST	3270	3450
SH, SLTST	3450	3690
SH,SS,SLTST	3690	3720
SH, SS, SLTST, LS	3720	3750
SH, SLTST	3750	3810
SH	3810	3870
SH, SLTST	3870	3930
SH, SLTST, LS	3930	3960
SH	3960	4410
SH, SLTST	4410	4520
SH	4520	5070
SH, SLTST, SS	5070	5120
SH, SLTST	5120	5190
SH	5190	7550
SH, LS	7550	7620
LS, SH	7620	7700
SH,LS	7700	7750
SH	7750	7770
SH,. LS	7770	7800
SH	7800	7980
SH, LS	7980	8030
SH,	8030	8080
SH, LS	8080	8100
SH	8100	10670
SH, LS	10670	10750
SH	10750	12646

FORMATION	TVD
BIG INJUN*	1955
BIG INJUN BASE*	2021
GREENBRIER*	2051
GREENBRIER BASE*	2085
SQUAW*	2094
SQUAW BASE*	2105
GANTZ*	2493
GANTZ BASE*	2510
50FT*	2541
50FT BASE*	2639
30FT*	2653
30FT BASE*	2702
GORDON*	2721
GORDON BASE*	2747
LWR GORDON*	2853
LWR GORDON BASE*	2896
4TH SAND*	2928
4TH SAND BASE*	2935
5TH SAND*	2987
5TH SAND BASE*	3022
LWR SPEECHLEY*	3607
LWR SPEECH. BASE*	3627
UP BALLTOWN*	3827
UP BALLTOWN BASE*	3840
BALLTOWN*	3891
BALLTOWN BASE*	3922
GENESEO SHALE	7388
GENESEO BASE	7421
TULLY LIMESTONE	7421
TULLY BASE	7472
HAMILTON SHALE	7472
HAMILTON BASE	7532
UPPER MARCELLUS	7532
UP MARCELLUS BASE	7620
PURCELL LIMESTONE	7620
PURCELL BASE	7625
LOWER MARCELLUS	7625
LO MARCELLUS BASE**	7682

<sup>\*</sup> Tops projected from offset log due to air drilling and therefore not logging this section

<sup>\*\*</sup> Base projected from offset logs due to not actually drilling through this base



#### API# 47-049-02209

#### **Preforated Intervals, Fracturing or Stimulating**

Stg 7 Marcellus; 10523'-10745'; 60 shots; Slick water frac; Avg treating 7352 psi@ 84 bpm; 106,358 #100 mesh; 300,298 #s 30/50 mesh; 9638 bbl water, 0 bbl treated water

Stg 8 Marcellus; 10218'-10440'; 60 shots; Slick water frac; Avg treating 7510 psi@ 83 bpm; 107,843 #100 mesh; 260,370 #s 30/50 mesh; 9339 bbl water, 0 bbl treated water

Stg 9 Marcellus; 9913 '-10135'; 60 shots; Slick water frac; Avg treating 7161 psi@ 85 bpm; 107,827 #100 mesh; 313,530 #s 30/50 mesh; 9950 bbl water, 0 bbl treated water

Stg 10 Marcellus; 9608'-9830'; 60 shots; Slick water frac; Avg treating 7185 psi@ 83 bpm; 107,259 #100 mesh; 312,494 #s 30/50 mesh; 9964 bbl water, 0 bbl treated water

Stg 11 Marcellus; 9303'-9525'; 60 shots; Slick water frac; Avg treating 7703 psi@ 85 bpm; 106,308 #100 mesh; 318,239 #s 30/50 mesh; 9789 bbl water, 0 bbl treated water

Stg 12 Marcellus; 8998'-9220'; 60 shots; Slick water frac; Avg treating 7344 psi@ 76 bpm; 107,032 #100 mesh; 313,211 #s 30/50 mesh; 10105 bbl water, 0 bbl treated water

Stg 13 Marcellus; 8693'-8915'; 60 shots; Slick water frac; Avg treating 7257 psi@ 77 bpm; 107,021 #100 mesh; 312,458 #s 30/50 mesh; 10024 bbl water, 0 bbl treated water

Stg 14 Marcellus; 8388'-8610'; 60 shots; Slick water frac; Avg treating 7324 psi@ 81 bpm; 107,658 #100 mesh; 313,971 #s 30/50 mesh; 9985 bbl water, 0 bbl treated water

Stg 15 Marcellus; 8083'-8305'; 60 shots; Slick water frac; Avg treating 7451 psi@ 70 bpm; 106,486 #100 mesh; 313,103 #s 30/50 mesh; 10093 bbl water, 0 bbl treated water

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WR-35 Rev (9-11)

## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	3/27/2013	
API #:	47-4902210	

Farm name: Bower, Richard and Jocelyn	Operator Wel	l No.: Brennar	Unit A 5H			
LOCATION: Elevation: 1256	Quadrangle: _	Quadrangle: Mannington 7.5'				
District: Lincoln	County: Mari	on				
Latitude: 15020 Feet South of 39 Deg	g. 32 Min	30Sec	D.	<del></del>		
Longitude 1110 Feet West of 80 De	eg. 17 Min	Sec	<b>.</b>			
Company: XTO Energy Inc				•		
Address: PO Box 1008, Jane Lew, WV 26378	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.		
	20"	40'	40'	CTS		
Agent: Gary Beall	13-3/8"	632'	632'	531 sx		
Inspector: Bill Hendershot	9-5/8"	3103'	3103'	1041 sx		
Date Permit Issued: 5/18/2012	5-1/2"	12006'	12006'	1705 sx		
Date Well Work Commenced: 6/18/2012						
Date Well Work Completed: 1/5/2013						
Verbal Plugging:						
Date Permission granted on:						
Rotary Cable Rig						
Total Vertical Depth (ft): 7626'						
Total Measured Depth (ft): 11,511'				•		
Fresh Water Depth (ft.): 65'						
Salt Water Depth (ft.): None Noted						
Is coal being mined in area (N/Y)? N				0 605		
Coal Depths (ft.): 140'			CEIV	and G		
Void(s) encountered (N/Y) Depth(s) N			SELOII			
Is coal being mined in area (N/Y)?  Coal Depths (ft.): 140'  Void(s) encountered (N/Y) Depth(s) N  OPEN FLOW DATA (If more than two producing format Producing formation Marcellus Pa Gas: Initial open flow N/A MCF/d Oil: Initial open Final open flow 3219 MCF/d Final open flow Time of open flow between initial and final tests Static rock Pressure psig (surface pressure)  Second producing formation Pay: Gas: Initial open flow MCF/d Oil: Initial open Final open flow MCF/d Final open flow between initial and final tests	zone depth (ft)B flowB	bl/d	ata on separate s	wewall buter		
Static rock Pressure psig (surface pressure)						

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

3-35-13 Date[3

Were core samples taken? YesNo_X	Were cuttings caught during drilling? Yes_X No
Were Electrical, Mechanical or Geophysical logs recorded on th	is well? If yes, please list GR, ROP, Directional Survey, Total Gas, Mudlogs
FRACTURING OR STIMULATING, PHYSICAL CHANG	OWING: 1). DETAILS OF PERFORATED INTERVALS, GE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC AND BOTTOMS OF ALL FORMATIONS, INCLUDING URFACE TO TOTAL DEPTH.
Perforated Intervals, Fracturing, or Stimulating:	
Stg 1 Marcellus; 11206'-11436'; 60 shots; Slick water frac; Avg treating 7125 psi@ 79	bpm; 111,300 #100 mesh; 326,769 #s 30/50 mesh; 10141 bbl water, 0 bbl treated water
Stg 2 Marcellus; 10886'-111116'; 60 shots; Slick water frac; Avg treating 7623 psi@ 82	2 bpm; 106,234 #100 mesh; 300,279 #s 30/50 mesh; 9772 bbl water, 0 bbl treated water
Stg 3 Marcellus; 10566'-10796'; 60 shots; Slick water frac; Avg treating 7623 psi@ 82	bpm; 110,195 #100 mesh; 328,735 #s 30/50 mesh; 10315 bbl water, 0 bbl treated water
Stg 4 Marcellus; 10246'-10476'; 60 shots; Slick water frac; Avg treating 7285 psi@ 84	bpm; 109,586 #100 mesh; 328,641 #s 30/50 mesh; 10421 bbl water, 0 bbl treated water
Stg 5 Marcellus; 9926'-10156'; 60 shots; Slick water frac; Avg treating 7433 psi@ 85 b	ppm; 109,473 #100 mesh; 327,469 #s 30/50 mesh; 10156 bbl water, 0 bbl treated water
Stg 6 Marcellus; 9606'-9836'; 60 shots; Slick water frac; Avg treating 7386 psi@ 84 b	pm; 109,656 #100 mesh; 316,069 #s 30/50 mesh; 10075 bbl water, 0 bbl treated water
Plug Back Details Including Plug Type and Depth(s):	
	epth / Bottom Depth
Surface:	
See attached sheet.	
·	

Brennan Unit A 5H	47-049-022	210
Formation Name or Type	Тор	Bottom
SS,SLT,SH	0	80
SS	80	128
SH	128	140
COAL	140	150
SS,SH	150	170
SH	170	178
SS	178	202
SS,SH	202	460
SH	460	506
SS	506	525
	525	630
SS,SH		<del></del>
SS, LS SLST, SH	630	650
SH, SLST, LS, SS	650	680
SH, SLST, SS	680	710
SH, SLST, SS	710	740
SS, SLST	740	770
SH, SLST	770	860
SH, LS, SLST	860	890
SH, SLST	890	980
LS, SH	980	1010
SH, SLST, SS	1010	1040
SLST, SS	1040	1070
SS	1070	1190
SH, SLST	1190	1220
LS, SH, SLST	1220	1250
SH, LS, SS	1250	1360
SH, SS	1360	1420
SS, SH	1420	1510
SS, SH, SLST	1510	1550
SS, SH	1550	1670
SH, SS	1670	1700
SS, SH	1700	1910
SS, SH, LS	1910	2060
SS, SH, SLTST	2060	2090
SH, SS, SLTST	2090	2150
SLTST, SH	2150	2180
SH, SLTST, SS	2180	2270
SH, SLTST	2270	2480
SH, SS	2480	2600
SH, SS, SLTST	2600	2720
SS, SH, SLTST	2720	2780
SH, SLTST, SS	2780	2850
SLTST, SH, SS	2850	2970
SH, SLTST, SS	2970	3050
SH, SS	3050	3130
SH	3130	3220
SH, SLTST	3220	3340
SH, SS, SLTST	3340	3400
SH, SLTST	3400	3640
SH	3640	3790
ЭП	3040	3/30

FORMATION	TVD
BIG INJUN*	1955
BIG INJUN BASE*	2021
GREENBRIER*	2051
GREENBRIER BASE*	2085
SQUAW*	2094
SQUAW BASE*	2105
GANTZ*	2493
GANTZ BASE*	2510
50FT*	2541
50FT BASE*	2639
30FT*	2653
30FT BASE*	2702
GORDON*	2721
GORDON BASE*	2747
LWR GORDON*	2853
LWR GORDON BASE*	2896
4TH SAND*	2928
4TH SAND BASE*	2935
5TH SAND*	2987
5TH SAND BASE*	3022
LWR SPEECHLEY*	3607
LWR SPEECH. BASE*	3627
UP BALLTOWN*	· 3827
UP BALLTOWN BASE*	3840
BALLTOWN*	3891
BALLTOWN BASE*	3922
GENESEO SHALE	7378
GENESEO BASE	7411
TULLY LIMESTONE	7411
TULLY BASE	7461
HAMILTON SHALE	7461
HAMILTON BASE	7521
UPPER MARCELLUS	7521
UP MARCELLUS BASE	7611
PURCELL LIMESTONE	7611
PURCELL BASE	7614
LOWER MARCELLUS	7614
LO MARCELLUS BASE**	7671

<sup>\*</sup> Tops projected from offset log due to air drilling and therefore not logging this section

<sup>\*\*</sup> Base projected from offset logs due to not actually drilling through this base

SH, SLTST	3790	4060
SH '	4060	4420
SH, SLTST	4420	4570
SH	4570	5140
SH, SLTST	5140	5290
SH	5290	5770
SH, SLTST	5770	5860
SH	5860	7500
LS, SH	7500	7600
SH, LS	7600	7730
SH	7730	7900
SH, LS	7900	7920
SH	7920	9920
SH, LS	9920	9940
SH	9940	11528

Well Name: Brennan Unit A 5H

API# 47-049-02210

### **Preforated Intervals, Fracturing or Stimulating**

Stg 7 Marcellus; 9286'-9516'; 60 shots; Slick water frac; Avg treating 7175 psi@ 83 bpm; 108,674 #100 mesh; 301,576 #s 30/50 mesh; 9985 bbl water, 0 bbl treated water

Stg 8 Marcellus; 8966'-9196'; 60 shots; Slick water frac; Avg treating 7346 psi@ 77 bpm; 107,920 #100 mesh; 316,698 #s 30/50 mesh; 10172 bbl water, 0 bbl treated water

Stg 9 Marcellus; 8646'-8876'; 60 shots; Slick water frac; Avg treating 7318 psi@ 84 bpm; 108,224 #100 mesh; 328,471 #s 30/50 mesh; 10184 bbl water, 0 bbl treated water

Stg 10 Marcellus; 8326'-8556'; 60 shots; Slick water frac; Avg treating 6983 psi@ 77 bpm; 107,871 #100 mesh; 326,649 #s 30/50 mesh; 10139 bbl water, 0 bbl treated water

Stg 11 Marcellus; 8006'-8236'; 60 shots; Slick water frac; Avg treating 7256 psi@ 80 bpm; 108,329 #100 mesh; 328,640 #s 30/50 mesh; 10004 bbl water, 0 bbl treated water

WR-35 Rev (9-11)

## State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	6/7/2013
API #:	4704901908

	Juagrangie:			
C		Shinnston 7.5'		
	County: Mar	ion		
eg. 30'	Mir	1. 00" Sec		
Deg. 20'	Mir	1, <u>00"</u> Sec	•	
			•	
T	Casing & Fubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
	13 3/8"	45'	45'	Sand In
	9 5/8"	481'	481'	CTS
	7"	1725'	1725'	CTS
	4 1/2"	5100'	5047'	247 sks
			EIVED	
		Office of	Oil & Gas	
			0.2012	
		JUN	2 2013	
		WAY Don	ortmont o	
	F"~	AAA Deb	artment o tal Protec	tion
	El	INITO INTE	tar rotec	ti <del>Oi i</del>
Pay zone en flow flow e) after y zone den flow	ne depth (ft)	2766' - 4676' bl/d bl/d s ars bl/d	ta on separate sh	eet)
en flow flow	v	B	Bbl/d Bbl/d	Bbl/d Bbl/d
y zone den flow	depth v	(ft) B Bl	(ft) Bbl/d Bbl/d _Hours	(ft)Bbl/d Bbl/d

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

Date

Were core samples	taken? YesNo_^	Were cuttings caught during drilling? Yes No
Were Electrical, M	echanical or Geophysical logs rec	orded on this well? If yes, please list
FRACTURING OF DETAILED GEOCOAL ENCOUN	OR STIMULATING, PHYSICA OLOGICAL RECORD OF T TERED BY THE WELLBORE	E FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, AL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC HE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING EFROM SURFACE TO TOTAL DEPTH.
	s, Fracturing, or Stimulating:	405 also panel 320 bbl water 77 000 act N3
Riley	4670' - 4676'	195 sks sand, 330 bbl water, 77,000 scf N2
Bradford	4172' - 4263'	200 sks sand, 374 bbl water, 141,000 scf N2
L. Balltown	3862' - 3989'	250 sks sand, 368 bbl water, 149,000 scf N2
Balltown 5th Cond	3654' - 3674'	360 sks sand, 543 bbl water, 97,000 scf N2
5th Sand	2766' - 2770'	265 sks sand, 317 bbl water, 100,000 scf CO2
Plug Back Details I	ncluding Plug Type and Depth(s)	:
Formations Encour		Top Depth / Bottom Depth
Rock	0' - 364	
Coal	364' - 370' 370' - 880'	
Sand/Shale		
Sand Shale	880' - 1009 1005' - 1689	
Sand/Shale Big Lime	1680' - 178	
Big Injun	1783' - 1993	
Weir	1993' - 240	
Gordon	2407' - 270	
4th	2708' - 276	
5th	2760' - 312	
Speechly	3128' - 365	
Balltown	3650' - 398	
Bradford	3983' - 486	
Benson	4860' - 510	

DATE: 3/4/13

API#: 47-035-03000

## State of West Virginia Department of Environmental Protection Office of Oil and Gas

### Well Operator's Report of Well Work

Farm name:John Morgan	Oper	rator Well No.:	HR 418_		
LOCATION: Elevation:610'	Quad	Quadrangle:		_Sandyville WV 7.5'	
District: Ravenswood	Cour	ntv:	Jackson		
District:Ravenswood_ Latitude: 4611'Feet South of 38Deg	z. 57 M	in. 30 Sec			
Longitude 360' Feet West of 81 D	eg. 37 Min.	. 30 Sec.			
Company:Hard Rock Exploration	Casing &	TUsed in	l v	la	
	Tubing &	drilling	Left in well	Cement fill	
Address: 1244 Martins Branch Road	1 ublig	diming		up Cu. Ft.	
Charleston WV, 25312	20"	32'	32'	N/A	
Agent: Marc Scholl	13 3/8"	78'	78'	81ft3 CTS	
Inspector: Jamie Stevens	9 5/8"	554'	554'	288 ft3 CTS	
Date Permit Issued: 10/27/11	7"	2365'	2365'	536 ft3 CTS	
Date Well Work Commenced: 12/3/12	4.5"	6868'	6868'	130 ft3	
Date Well Work Completed: 1/8/13	1.5	0000	0000	130 103	
Verbal Plugging:	Gamma Log f	from (3445'MD)	(kop) – 4000'M	D 20252-1	
Date Permission granted on:		g from (3150' –		D, 3923 Wa	
Rotary x Cable Rig			· Surface) G,D,C	N. I., J	
Total Depth (feet): 7000'TMD, 4100'TVD	Kun Open no	Log (2387 =	Surace) G,D,C	in'ma	
Fresh Water Depth (ft.): 34', 390'	· · · · · · · · · · · · · · · · · · ·	RECE	VED		
		Office of (			
Salt Water Depth (ft.): 1462', 1886' Water/Gas		Aure or C	m & Gas		
The state of the Canal C		0 111 0			
Is coal being mined in area (N/Y)? N		ALK 0 1	<del>† 2013</del>		
Coal Depths (ft.): N/A					
	'	WV Depai	tment of		
OPEN FLOW DATA			al Protection	n	
Producing formation Lawer Human Cha					
Producing formationLower Huron_Sha	iePay zone				
Gast Initial own flow two MCE/4 Oil, I			)46'TVD - 41	00, LAD	
Gas: Initial open flow_trace MCF/d Oil: I	muai open no	B	bl/d		
Final open flow>1_MMCF/d Fi	nai open flow	BI	ol/d		
Time of open flow between initial and f	inal tests	72Ho	urs		
Static rock Pressurepsig (surface	e pressure) aft	erHour	8		
Second producing formation		e depth (ft)			
	Initial open flo		bl/d		
	nal open flow	B1	ol/d		
Time of open flow between initial and fi		Hour	3		
Static rock Pressurepsig (surface	e pressure) aft	erHou	ırs		
NOTE: ON BACK OF THIS FORM PUT THE F	OLLOWING:	l). DETAILS (	OF PERFORATI	ED .	
INTERVALS, FRACTURING OR STIMULATIN	G, PHYSICAL	CHANGE, E	<b>IC. 2). THE WE</b>	LL	
LOG WHICH IS A SYSTEMATIC DETAILED	GEOLOGICAL	RECORD OF	ALL FORMAT	IONS,	
INCLUDING COAL ENCOUNTERED BY THE Y	VELALBØRE).				
Signed:	- /				
By: /pr/esident	_//_	<del></del>			
Date / 3/5/2013					

Formation:	Top:	Bottom:	35-03000
Soil Sand Shale	0	1590	
Salt Sand	1590	1680	
Big Lime	1680	1798	
Greenbrier Grp	1798	1848	
Injun	1848	1965	
Shale	. 1965	2290	
Coffee Shale	2290	2313	
Berea Sand	2313	2316	
Devonian Shale	2316	4100	
Lower Huron Section All depths shown As TVD	3970	4100	

12-13-12 Run total of 163 jts 4.5" R-3 11.6ppf N80 casing to depth of 6862' set at 6868' KB. Run 13 Stg Team Hydraulic Set Openhole packer system. Run inflatable packer at 2600'. MIRU Nabors Packer set crew – pressure up to 3200 psi with 117k scf N2. Hold pressure for 10 min for packer operation. RU and perform annular squeeze with 21 bbls type 1 3% CaCl mixed at 15.2ppg. Follow cmt with 2 bbl water.

NOTE: THERE ARE NO PERFORATED INTERVALS IN THIS STYLE OF COMPLETION. THE PACKERS WILL SERVE AS STAGE ISOLATION AND THE BALL ACTIVATED MECHANICAL SLEEVES SERVE AS THE MEANS OF COMMUNICATION FROM WELLBORE TO FORMATION. ALL DEPTHS ARE INDICATED BELOW.

Stage	Sleeve	Sleeve ID	Ball Size	Packer	
1	6820.35	HP	N/A	6734.45	
2	6607.65	1.594	1.719	6521.75	
3	6394.95	1.750	1.875	6309.05	
4	6182.65	1.906	2.031	6055.45	•
5	5928.95	2.063	2.188	5843.05	
6	5716.25	2.219	2.344	5630.35	
7	5462.25	2.375	2.500	5375.35	RECEIVED
8	5250.15	2.535	2.656	5164.25	Office of Oil & Gas
9	5037.85	2.688	2.831	4951.95	ADD A A 2012
10	4825.55	2.844	2.969	4699.05	APR 0 8 2013
11	4573.15	3.036	3.250	4488.05	
12	4362.35	3.286	3.530	4235.75	WV Department of
13	4109.95	3.536	3.750	4024.75	Environmental Protection
Anchor				2600.90	

1/7/13 MIRU Nabors. RU and Pump N2 at 5k scf/min and start pressuring up on 4.5" casing to open hydroport sleeve. Up rate to 7k scf/min and pump total of 133k scf N2 to open sleeve at 3800 psi. Wait for Frac Crew

01/08/13 MIRU Nabors Frac Crew. Wellhead pressure at 1186 psi. Start pumping at 30k scf/min on Stg 1 and work rate up to 100k scf/min and pump total of 1MM scf N2. Shut down and load balls and product. Drop 1.719" ball for Stg 2. Pump at 15k scf/min and land ball at 1700 psi and 42k scf. Up rate and open sleeve at 3722psi. Up rate and pump total of 1MM scf N2. Back rate down to 6k scf/min and drop 1.875" ball for Stg 3. Pump ball down at 18k scf/min. Land ball at 2200 psi at 95k scf N2. Up rate and open sleeve at 3982 psi. Up rate and pump total of 1MM scf N2. Back rate down to 5k scf/min and drop 2.031" ball for Stg 4. Repeat Process For Stgs 4 – 13.

<u>35</u>-03000

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7
Max P	4738	4557	4213	4553	4228	4280	4154
Avg P	4634	4543	4156	4414	4211	4238	4117
Max R	101.8	109.0	103.0	108.0	104.0	104.0	104.0
Avg R	100.1	106.6	102.5	106.7	103.4	102.8	103.5
Shut In	1700-2min	N/A	N/A	1746-2min	1660-5min	N/A	·N/A

	Stage 8	Stage 9	Stage 10	Stage 11	Stage 12	Stage 13
Max P	4201	4108	4092	3916	3740	3539
Avg P	4182	4089	4081	3893	3722	3528
Max R	103.0	103.0	104.0	106.0	104.0	103.0
Avg R	102.6	102.6	103.5	105.0	103.5	102.2
Shut In	1633-5min	N/A	1733-2min	N/A	N/A	1517-5min

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Office of Oil & Gas

APR 0 8 2013

WV Department of Environmental Protection

DATE: 3/4/13

API #: 47-053-00547

## State of West Virginia Department of Environmental Protection Office of Oil and Gas

### Well Operator's Report of Well Work

Farm name:Denver And Lura Casto_ Operato			:HR 1003	
LOCATION: Elevation: 918'	Quadrangle:Mt Alto WV 7.5'			7.5'
District: Union	County	Маес	nn.	
District:Union	eg 47 N	Min 30 Se	/II	<del></del>
Longitude 249' Feet West of 81	Deg. 52 Mir	1. 30 Sec	···	
Company: Hard Rock Exploration			•	
	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address: 1244 Martins Branch Road				
Charleston WV, 25312				
Agent: Marc Scholl	13 3/8"	32'	32'	N/A
Inspector: Jamie Stevens	9 5/8"	795'	795'	408 ft3 CTS
Date Permit Issued: 1/12/12	7"	2532'	2532'	574 ft3 CTS
Date Well Work Commenced: 12/14/12	4.5"	7572'	7572'	Ft3
Date Well Work Completed: 1/1/13				
Verbal Plugging:	Gamma Log	from (3255'M)	D(kop) -4160'M	D 3921'tvd)
Date Permission granted on:		g from (3200'		1
Rotary x Cable Rig		<u> </u>	2 44.2400)	<u> </u>
Total Depth (feet): 7691'TMD, 3990'TVD		T		·
Fresh Water Depth (ft.): None observed		<del> </del>		
			RECEIV	ED
Salt Water Depth (ft.): 1146', 1800'				
		<del> </del>	Office of O	<del>S Gas</del>
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): N/A			APR 0 8	2013
OPEN FLOW DATA	•		· WV Depart	ment of
Producing formationLower Huron_Sh	nalePay zone	depth (f 13)	<b>/irongo-paja</b> 3785'TVD - 39	Marotection
Gas: Initial open flow_1000 MCF/d Oil:	Initial open fl			70 1 1 1
Final open flow MMCF/d Fin	al onen flow	Bbl		
Time of open flow between initial and	final tests	Hou		
Static rock Pressure psig (surfa		ter Hou		
paig (suria	ce pressure) at	icinot	п2	
Second producing formation	Day 701	ne depth (ft)		
	: Initial open f		Bbl/d	
	Final open flow			
Time of open flow between initial and			3b1/d	
		Hou		
static rock Pressurepsig (surfa-	ce pressure) af	terHo	ours	
NOTE: ON BACK OF THIS FORM PUT THE	EOI I OWING	1) DEMARES	OF DEDECT :	<b>77</b>
INTERVALS, FRACTURING OR STIMULATE	LOPTOMING;	I). DETAILS	OF PERFORATI	SD TT
LOG WHICH IS A SYSTEMATIC DETAILED	REOLOGICA GEOLOGICA	DECORD O	E ALL ECONAAM	
INCLUDING COAL ENCOUNTERED BY THE	ANEX I EUDOE	L KECOKD O	r all fokma'i	ions,
Signed:				
By: President				
Date: 3/5/2013				

53-00547

#### All depths shown As TVD

**Lower Huron Section** 

Formation:

Salt Sand

**Big Lime** 

Shale

Injun/Squaw

**Berea Sand** 

**Devonian Shale** 

Soil/Sand/Shale

1/1/13 Run total of 181 jts of 4.5" 11.6ppf M80 R-3 4.5" casing to depth of 7566'set at 7572' KB. Run pump out guide shoe, and run 10' pup jt at 2973'. Land casing hanger, and NU wellhead and 5k 4.5" valve. MIRU Nabors. Pressure test iron and start pumping ball to pump out shoe. Pressure up to approx. 950 psi and pressure dropped indicating that shoe opened. Pressure fell back to 320 psi and held. — Produce through 4.5" casing - will test as natural producer.

Bottom:

1747

1823

1955

2108

2448

2463

3990

3990

Top:

1747

1823

1955

2108

2448

2463

3785

0

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Office of Oil & Gas

APR 0 8 2013

WV Department of Environmental Protection

DATE: 3/5/13

API#:47-087-04720

## State of West Virginia Department of Environmental Protection Office of Oil and Gas

### Well Operator's Report of Well Work

Farm name: Linda Sue Peffer_	Оре	erator Well No.:	HR 482_	<del></del>
LOCATION: Elevation:760'	Qua	drangle:	_Peniel WV 7	.5'
District: Reedy	County	Rose	16	
District: Reedy Latitude: 10017' Feet South of 38	Deg. 52	Min 30 Se	rc	<del></del>
Longitude 2519' Feet West of 81	Deg. 25 M	in. 00 Sec		
Company:Hard Rock Exploration			•	
	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address: 1244 Martins Branch Road				
Charleston WV, 25312				
Agent: Marc Scholl	13 3/8"	42'	42'	N/A
Inspector: Ed Gainer	9 5/8"	616'	616'	312ft3 CTS
Date Permit Issued: 7/30/2012	7"	2452'	2452'	580ft3 CTS
Date Well Work Commenced: 1/3/13	4.5"	7871'	7871'	130 ft3
Date Well Work Completed: 1/29/13			1	100 100
Verbal Plugging:	Gamma Log	from (3555'MI	(kop) - 4760'M	D 4248'TVD
Date Permission granted on:	Ran Gyro Lo	g from (3501' -	· Surface)	1
Rotary x Cable Rig		<u> </u>		1
Total Depth (feet): 7932'TMD, 4249'TVD				
Fresh Water Depth (ft.): 230'		7	ECEIVED	
Salt Water Depth (ft.): 1133',1522',1990'		<del>  ∪me</del>	h of Oil & I	
			0 - 0040	
Is coal being mined in area (N/Y)? N		<del> </del>	PR 0-8 2013	
Coal Depths (ft.): N/A				
	•	` \AA/ I	Departmer	nt of
OPEN FLOW DATA				
		Environ	mental Pro	)( <del>C</del> CliOi)
Producing formationLower Huron_	Shale Pay zone	depth (ft) 43	72'MD- 7932'	MD
			170'TVD - 4	
Gas: Initial open flow_ 50 MCF/d Oil:	Initial open flow			317 1 113
Final open flow>2_MMCF/d	Final open flow	, B	h1/a	
Time of open flow between initial ar	nd final tests	72 11	OJ/ G	
Static rock Pressure psig (sur	foce precours) of	for How	o o o o o o o o o o o o o o o o o o o	
parg (au	race pressure, ar		18	
Second producing formation	Darres	n α d ameth (Ω)		
	Dil: Initial open f	ne depth (ft)	21/1	
			3b1/d	
		лв	bl/d	
Time of open flow between initial ar				
Static rock Pressure psig (sur	face pressure) af	terHo	ırs	
NOTE, ON DACK OF THE FORM FOR	D DOLLOWS:-	4) <b>DD</b>		
NOTE: ON BACK OF THIS FORM PUT THI	E PULLOWING:	I). DETAILS	JF PERFORAT	ED
INTERVALS, FRACTURING OR STIMULAT LOG WHICH IS A SYSTEMATIC DETAILE	THING, PHYSICA	L CHANGE, E	1C. 2). THE WI	1111 1111
INCLUDING COAL ENCOUNTERED BY TH	EVIDOLI PAGE V	PHECOKO OF	ALL FORMAT	IONS,
Signed:	TELEBOKE.	$\rightarrow$		
By: President	1) - /			
Date 3/6/2013	· //			
3/0/2013		<del></del>		

Formation:	Top:	Bottom:
Soil/Sand/Shale	0	1597
Salt Sand	1597	2040
Big Lime	Didn't See	
Injun/Squaw	Didn't See	
Weir	2307	2317
Coffee Shale	2357	2369
Devonian Shale	2369	4249 td
<b>Lower Huron Section</b>	4192	4249 td

#### All depths shown As TVD

1/17/13 Run 16 stg Packers Plus Hydraulic set open hole packer system. Run casing to depth of 7865' set at 7871' KB. Run total of 174 jts of R-3 4.5" 11.6ppf M-80 casing.

1/18/13 RU to Casing and pump small volume water and drop balls for Toe Sub. Start pumping N2 and pressure up to 3200psi- Stop pumping and hold pressure for 20min for packer operation. Bleed pressure back to 600psi and Perform annular squeeze on 4.5" casing with 100sx at 15ppg – follow with 2bbl water.

NOTE: THERE ARE NO PERFORATED INTERVALS IN THIS STYLE OF COMPLETION. THE PACKERS WILL SERVE AS STAGE ISOLATION AND THE BALL ACTIVATED MECHANICAL SLEEVES SERVE AS THE MEANS OF COMMUNICATION FROM WELLBORE TO FORMATION. ALL DEPTHS ARE INDICATED BELOW.

Stage	Sleeve	Sleeve ID	Ball Size	Packer
1	7764.41	HP	N/A	7667.84
2	7576.95	1.250	1.500	7480.38
3	7346.19	1.500	1.750	7249.72
4	7114.73	1.750	1.875	7018.16
5	6883.07	1.875	2.000	6786.60
6	6695.61	2.000	2.125	6599.14
7	6464.05	2.125	2.250	6367.58
8	6232.49	2.250	2.375	6135.92
9	6000.83	2.375	2.500	5904.26
10	5813.37	2.500	2.625	5716.80
11	5581.71	2.625	2.750	5485.14
12	5349.95	2.750	2.875	5253.78
13	5118.59	2.875	3.000	5022.12
14	4867.46	3.000	3.125	4790.89
15	4656.3	3.250	3.500	4559.73
16	4468.84	3.500	3.750	4372.27
Anchor				2688.60

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WV Department of Environmental Protection

01/28/13 -1/29/13 Start pumping on Stg 1 at 26k scf/min. pressure up to 4631 psi, and open hydroport sleeve. Continue pumping and increase rate to 100k scf/min. Pump total of 1MM scf N2. Shut down and drop 1.5" ball for Stg 2. Start pumping ball to seat at 17k scf/min. Land ball at 130k scf. Up rate and open sleeve at 4676 psi. Continue to increase rate and pump total of 1MM scf N2. Shut down and drop 1.75" ball for Stg 3. Start pumping ball down at 19k scf/min and land ball at 135k scf. Up rate and open sleeve at 4709 psi. Continue to increase rate and pump total of 1MM scf N2. Back rate down and drop 1.875" ball for Stg 4. Repeat fracturing process for Stgs 4 - 16.

87.04720

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8
Max P	5539	5419	5222	4828	4827	4919	4919	4661
Avg P	4776	5301	5106	4746	4781	4858	4815	4613
Max R	103.0	94.0	106.0	102.0	104.0	103.0	101.0	98.0
Avg R	99.1	91.8	102.3	101.1	102.0	102.5	100.0	96.7
Shut In	N/A	2418-5min	N/A	2300-2min	2200-5min	2275-5min	N/A	N/A
	Stage 9	Stage 10	Stage 11	Stage 12	Stage 13	Stage 14	Stage 15	Stage 16
Max P	Stage 9 4716	Stage 10 4777	Stage 11 4235	Stage 12 4260	Stage 13 4094	Stage 14 4459	Stage 15 4349	Stage 16 4270
Max P Avg P								
	4716	4777	4235	4260	4094	4459	4349	4270
Avg P	4716 4625	4777 4735	4235 4192	4260 4237	4094 4074	4459 4439	4349 4313	4270 4250

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APR 0 8 2013

WV Department of Environmental Protection

DATE: 3/5/13

API#: 47-087-04726

### State of West Virginia Department of Environmental Protection Office of Oil and Gas

### Well Operator's Report of Well Work

Farm name:John Ellison_	Ope	rator Well No.	:HR 476_	
LOCATION: Elevation:686'	Qua	frangle:	Reedy WV 7.	5'
District:Reedy	County:	Roa	ne	
Latitude: 6647'_Feet South of 38Deg	g. 55 M	in. 00 Se	c.	
Longitude_10921'Feet West_of81	Deg. 25 M	in. 00 S	ec.	
Company:Hard Rock Exploration		_		
	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address: 1244 Martins Branch Road				
Charleston WV, 25312	20"	15'	15'	N/A
Agent: Marc Scholl	13 3/8"	78'	78'	CTS
Inspector: Ed Gainer	9 5/8"	612'	612'	312ft3 CTS
Date Permit Issued: 12/18/12	7"	2343'	2343'	528ft3 CTS
Date Well Work Commenced: 1/18/13	4.5"	7054'	7054'	130 ft3
Date Well Work Completed: 2/8/13				
Verbal Plugging:	Gamma Log	from (3530'MI	D(kop) - 4690'M	D . 4242'TVD
Date Permission granted on:			- Surface)	T
Rotary x Cable Rig		······		<del></del>
Total Depth (feet): 7144'TMD, 4274'TVD			RECEI	AED
Fresh Water Depth (ft.): 40',260'			Office of C	I & Gas
			WHILE OF C	, <u>, , , , , , , , , , , , , , , , , , </u>
Salt Water Depth (ft.): 1269',1830'			1.111 0.0	2012
			AHK 0-8	2013
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): N/A	***************************************	-	MV Denai	tment of
	•	' <u>-</u>	ironmont.	al Protection
OPEN FLOW DATA		· En	MILOUITIE	ZI I 1010011011
Producing formationLower Huron_Sha	lePay zone		27'MD- 7144' 1055'TVD - 42	
Gas: Initial open flow_ 1000 MCF/d Oil:	Initial open fl			274 1 4 D
Final open flow MMCF/d Final	onen flore	Db1/	1 1	
Time of open flow between initial and f	open now	DUJ(	. <b>.</b>	
Ctatio mode Processes	mai tesis	/ZH	ours	
Static rock Pressure psig (surfac	e pressure) ar	terHou	ırs	
Second producing formation_	Pay zor	ne depth (ft)_		•
	Initial open fl		Bbl/d	
Final open flow MCF/d Fi	inal open flow	, <u> </u>	Bbl/d	
Time of open flow between initial and f	inal tests	Hou	rs	
Static rock Pressure psig (surfac			ours	
	- <u>F</u>		·	
NOTE: ON BACK OF THIS FORM PUT THE F	OLLOWING:	1). DETAILS	OF PERFORAT	ED
INTERVALS, FRACTURING OR STIMULATIN	G, PHYSICAL	CHANGE. I	ETC. 2), THE WI	 3LL
LOG WHICH IS A SYSTEMATIC DETAILED	GEODOGICAI	RECORD O	F ALL FORMAT	TONS.
LOG WHICH IS A SYSTEMATIC DETAILED INCLUDING COAL ENCOUNTERED BY THE Y	VELLBORE.	. – •	·,	· = :=:•
Signed: Ames the	- 13	_		
By:/ President				
Dete: / 3/6/2013				

Formation:	Top:	Bottom:
Soil/Sand/Shale	0	1648
Salt Sand	1648	1830
Injun/Squaw	1830	1868
Shale	1868	2261
Coffee Shale	2261	2276
Berea	2276	2278
Devonian Shale	2278	4274 td
Lower Huron Section	4084	4274 td

#### All depths shown As TVD

1/28/13 Run 156 jts 4.5" M-80 R-3 11.6ppf casing to depth of 7054' KB. Run Peake Completions 13 stg open hole hydraulic set packer system with casing anchor packer inside casing. MIRU Nabors packer set crew. Start pumping 1" ball to shoe and pressure up to 2130 psi. Held pressure for Packer operation. Packers shut off gas rate on 7". RD N2 and RU to perform annular squeeze on 4.5" casing. Pump 100sx type 1 3% CaCl cmt on top packer

NOTE: THERE ARE NO PERFORATED INTERVALS IN THIS STYLE OF COMPLETION. THE PACKERS WILL SERVE AS STAGE ISOLATION AND THE BALL ACTIVATED MECHANICAL SLEEVES SERVE AS THE MEANS OF COMMUNICATION FROM WELLBORE TO FORMATION. ALL DEPTHS ARE INDICATED BELOW.

Stage	Sieeve	Sleeve ID	Ball Size	Packer
1	7054.00	P/O Shoe	N/A	6913.74
2	6777.64	1.15	1.250	6681.62
3	6545.62	1.28	1.375	6449.55
4	6313.55	1.40	1.500	6217.53
5	6081.43	1.53	1.758	5985.31
6	5849.36	1.78	2.000	5753.29
7	5617.29	2.03	2.250	5521.07
8	5385.07	2.28	2.500	5289.05
9	5153.00	2.53	2.750	5056.93
10	4920.83	2.78	3.000	4824.81
11	4688.71	3.03	3.250	4592.54
12	4456.39	3.28	3.500	4360.17
13	4223.92	3.53	3.750	4127.80
Anchor				2259.10

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02/07/13 -02/8/13 . Start pumping N2 at 15k scf/min, take pressure to 3500 psi, and hold pressure for approx. 5 min for Stg 1. Start pumping at 15k scf/min and open shoe up at 5108 psi. Slowly work rate up to 75k scf/min. pumped total of 1.3MM scf N2. Shut down. Drop 1.25" ball for Stg 2. Land at 121k scf at 18k scf/min. Up rate and open sleeve at 4014 psi. Up rate and pump total of 1MM scf N2. Shut down and load 1.375" ball for Stg 3. Start pumping ball down at 18k scf/min. Land ball approx. 115k scf. Up rate and open sleeve at 4058 psi. Up rate and pump total of 1MM scf N2. Shut down and load and drop 1.5" ball for Stg 4. Load product. Start pumping at 5:30pm at 18k scf/min. Land ball at 47k scf. Up rate and open sleeve at 3790 psi. Up rate and pump total of 1MM scf N2. Shut down. Drop 1.75" ball for Stg 5. Repeat Process For Stgs 5 - 13

87.04726

88.9	93.0	104.0	105.0	104.3	107.0
2822-0min	2868-0min	1794-5min	1835-5min	N/A	1927-5min
Stage 8	Stage 9	Stage 10	Stage 11	Stage 12	Stage 13
4271	4830	4132	3948	4182	3792
4179	4777	3981	3916	4019	3635
107.0	108.0	115.0	104.0	105.0	102.0
105.0	107.0	105.0	102.0	101.0	101.0
N/A	2083-5min	N/A	1805-5min	N/A	1825-5min
	2822-0min  Stage 8  4271  4179  107.0  105.0	Stage 8         Stage 9           4271         4830           4179         4777           107.0         108.0           105.0         107.0	Stage 8         Stage 9         Stage 10           4271         4830         4132           4179         4777         3981           107.0         108.0         115.0           105.0         107.0         105.0	Stage 8         Stage 9         Stage 10         Stage 11           4271         4830         4132         3948           4179         4777         3981         3916           107.0         108.0         115.0         104.0           105.0         107.0         105.0         102.0	Stage 8         Stage 9         Stage 10         Stage 11         Stage 12           4271         4830         4132         3948         4182           4179         4777         3981         3916         4019           107.0         108.0         115.0         104.0         105.0           105.0         107.0         105.0         102.0         101.0

Stage 3

5013

4858

106.0

Stage 4

4597

4433

107.0

Stage 5

4454

4122

110.0

Stage 1

5789

5213

95.3

Max P

Avg P

Max R

Stage 2

5649

5513

96.0

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Stage 6

4341

4247

109.0

Stage 7

4133

3985

108.0 104.0 N/A

APR 0 8 2013

WV Department of Environmental Protection

DATE: 3/4/13

API#: 47-035-03001

## State of West Virginia Department of Environmental Protection Office of Oil and Gas

### Well Operator's Report of Well Work

Farm name:Warren And Janet Myers	Op	Operator Well No.:HR 455			
LOCATION: Elevation:975'	Qu	adrangle:	_Liverpool WV	7.5'	
District: Ravenswood	Co	untv:	Jackson		
District: Ravenswood Latitude: 5406' Feet South of 38 De	g. 57	Min. 30 Sec			
Longitude_5099'_Feet West of 81_	Deg. 35 M	lin. 00 Sec.	•		
_ <del>_</del>	·				
Company:Hard Rock Exploration					
	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.	
Address: 1244 Martins Branch Road					
Charleston WV, 25312					
Agent: Marc Scholl	13 3/8"	31'	31'	N/A	
Inspector: Jamie Stevens	9 5/8"	934'	934'	456 ft3 CTS	
Date Permit Issued: 11-16-2011	7"	2715'	2715'	602 ft3 CTS	
Date Well Work Commenced: 10/25/12	4.5"	7684'	7684	130 ft3	
Date Well Work Completed: ///3//2					
Verbal Plugging:	Gamma Los	from (3755'MD	(kop) - 4700'M	D (Land curve)	
Date Permission granted on:	Ran Gyro L	og from (3650' -	Surface)	1	
Rotary x Cable Rig		<u> </u>			
Total Depth (feet): 7747'TMD, 4417'TVD			<u> </u>		
Fresh Water Depth (ft.): 893'			RECEIVE	n	
			MECEIA	000	
Salt Water Depth (ft.): 1589', 1980', 2048'		Of	fice of Oil	<del>x Gas</del>	
Is coal being mined in area (N/Y)? N			APR 0 8 2	13	
Coal Depths (ft.): N/A					
	•	` \A/	V Departm	ant of	
OPEN FLOW DATA		VV	V Dehaini	Jent of	
		Enviro	onmental l	Protection	
Producing formationLower Huron_Sha	ilePay zon	e depth (ft) 450	)5'MD- 7747']	MD	
		43	374'TVD - 44	17' TVD	
Gas: Initial open flow_50 MCF/d Oil: Ini	tial open flor	w Bbl/	ď		
Final open flow>1_MMCF/d F	inal open flo	w B1	b1/d		
Time of open flow between initial and i	final tests	72 Ho	nirs		
Static rock Pressure psig (surfac	e pressure) a	fter Hour	· · · · · · · · · · · · · · · · · · ·		
	- p		J		
Second producing formation	Pay zo	one depth (ft)			
Gas: Initial open flow MCF/d Oil:			bl/d		
_			ol/d		
Time of open flow between initial and f	inal open no	Hours			
Static rock Pressure psig (surfac			=		
psig (surface	e bressme) a	iterHor	ns .	•	
NOTE: ON BACK OF THIS FORM PUT THE F	OI I OWING	· 1) DETAILS	NE DEDECTO ATT	217	
INTERVALS, FRACTURING OR STIMULATIN	IG PHYSICA	T.CHANGE E	N TENTUKALI	TT	
LOG WHICH IS A SYSTEMATIC DETAILED	GEODOGICA	T.RECORD OF	ALLEODMAT	IONIG	
INCLUDING COAL ENCOUNTERED BY THE	WELLBORF	CALCOID OF	ALC PORTATI	iono,	
Signed: Ames The		•			
By: President					
Date: /3/5/2013	V				

Top:	Bottom:	35 03001
0	1980	30 00
1980	2230	
2230	2270	
2270	2315	
2315	2650	
2650	2670	
2670	2672	
2672	TD	
4320	4417	
	0 1980 2230 2270 2315 2650 2670	0 1980 1980 2230 2230 2270 2270 2315 2315 2650 2650 2670 2670 2672 2672 TD

#### All depths shown As TVD

11/6/12 Run 4.5" 11.6ppf N-80 casing to depth of 7678' set at 7684' KB With 14 stg Team Completion Hydraulic set openhole packer system. MIRU Nabors packer set crew. Pressure casing up to approx. 2000 psi and gas rate shut off. Continue pumping N2 for total of 160k scf and open hydroport frac sleeve at 3910 psi. Shut well in. RU and and perform annular squeeze on 4.5" with 100sx cmt at 15ppg.

NOTE: THERE ARE NO PERFORATED INTERVALS IN THIS STYLE OF COMPLETION. THE PACKERS WILL SERVE AS STAGE ISOLATION AND THE BALL ACTIVATED MECHANICAL SLEEVES SERVE AS THE MEANS OF COMMUNICATION FROM WELLBORE TO FORMATION. ALL DEPTHS ARE INDICATED BELOW.

Stage	Sleeve	Sleeve ID	<b>Ball Size</b>	Packer	
1	7592.00	HP	N/A	7501.10	
2	7368.20	1.438	1.563	7277.10	
3	7142.50	1.594	1.719	7051.90	
4	6917.30	1.750	1.875	6826.20	
5	6699.80	1.906	2.031	6608.75	
6	6476.85	2.063	2.188	6351.95	
7	6214.45	2.219	2.344	6127.10	RECEIVED
8	5999.50	2.375	2.500	5909.40	Office of Oil & Gas
9	5780.70	2.531	2.656	5655.00	
10	5520.40	2.688	2.813	5429.30	APR 0 8 2013
11	5299.20	2.844	2.969	5166.80	
12	5035.80	3.036	3.250	4944.70	WV Department of
13	4813.50	3.286	3.500	4722.40E	nvironmental Protection
14	4587.80	3.536	3.750	4505.30	
Anchor				2918.00	

11/12/12 MIRU Nabors Stim crew. Casing pressure at 1217 psi. Start pumping at half rate (50k scf/min) on Stg 1 and slowly increase rate to design. Pump total of 1MM scf N2. Shut down and drop 1.563" ball for Stg 2. Start pumping ball down at 17k scf/min. Land ball at 100k scf. Up rate and open sleeve at 4043 psi. Increase rate to 100k scf/min. Pump total of 1MM scf N2. Shut down and bleed lines. Load and drop 1.719" ball for Stg 3. Start pumping ball to sleeve at 21k scf/min. Land ball at 100k scf. Up rate and open sleeve at 4033 psi. Increase rate and pump total of 1MM scf N2. Back rate off and drop 1.875" ball for Stg 4. Repeat process for Stgs 4 – 14.

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7
Max P	4964	4650	4377	4817	4175	4103	4018
Avg P	4765	4536	4299	4276	4136	4061	3999
Max R	105.6	106.0	101.6	106.0	102.0	104.0	102.0
Avg R	103.1	103.6	100.7	103.9	101.7	102.8	101.1
Shut In	1700-5m	1770-5m	N/A	1805-5m	1804-5m	N/A	N/A

-	Stage 8	Stage 9	Stage 10	Stage 11	Stage 12	Stage 13	Stage 14
Max P	4001	4156	3919	4092	3850	3889	3920
Avg P	3976	4105	3777	4052	3841	3865	3895
Max R	102.0	105.0	103.0	106.0	104.0	107.0	108.0
Avg R	101.9	103.0	101.8	104.9	103.8	106.4	106.3
Shut In	1778-5m	N/A	N/A	1871	N/A	N/A	1850-5m

35.03001

RECEIVED
Office of Oil 9 Gas

APR 0.8 2013

WV Department of Environmental Protection

# State of West Virginia Division of Environmental Protection Section of Oil and Gas Well Operator's Report of Well Work

Farm name:

**BURNSIDE, WILLIAM** 

Operator Well No.: HIRAM LYNCH 102

LOCATION:

Elevation:

1,117'

Quadrangle:

WOLF SUMMIT 7.5'

District:

TEN MILE

County: HARRISON

Latitude:

2,860 Feet south of

39 Deg 17 Min 30 Sec.

Longitude:

11,515 Feet west of

80 Deg 27 Min 30 Sec.

Company Address:	HG Energ 5260 DuF Parkersbu		Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Inspector:	Trista	n Jenkins				
Date Permit Is	ssued:	01/25/2013				
Date Well Wo	rk Commenced:	03/18/2013				
Date Well Wo	ork Completed:	03/20/2013				
Verbal Pluggi	ng:	,				
Date Permissi	on Granted On:					
Rotary X	Cable	Rig	7"	450'	450'	existing
Total vertical	Depth (ft):	2930'				
Total Measure	ed Depth (ft):	2930'				
Fresh Water D	epth (ft):	None	4 1/2"	2898.5'	2898.5'	existing
Salt Water De	pth (ft):	None				
Is Coal being	mined in ares (Y/N	)? No				
Coal Depths (		None		nges	VEN	
Void(s) encou	ntered (Y/N) depth	(s):	0		II & Gas	
				APR 01	2013	

OPEN FLOW DATA	* Waterflood In	ijector	WV D	epartment of	of .	
Producing formation	1 .	Fifth Sand	Environm Pay 2	iental Prote zone depth (ft)	ction 2774'-2786'	
Gas: Initial open	flow	* MCF/	d Oil: Initial ope	en flow	* Bbl/d	_
Final open t	flow	* MCF/			* Bbl/d	
Time of o	en flow between	initial and f			ours	
Static rock pressure	·	* psig	surface pressure)	after	* Hours	
Second producing fo	ormation		Pay 2	zone depth (ft)		
Gas: Initial open	flow	MCF/	d Oil: Initial ope	en flow	Bbl/d	_
Final open	flow	MCF/			Bbl/d	
Time of or	en flow between	initial and f			ours	
Static rock pressure			surface pressure)	after	Hours	

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

3/26/13 Date

Were cuttings caught during drilling? No 33-04877F Were core samples taken? No N or Geophysical logs recorded on this well? Mechanical, Were NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH. Treated perfs 2774'- 2786' w/ 500 gals 15% HCL, 338 bbls cross linked gel, Treatment: & 15,000# 20/40 Econoprop. See original well record Well Log:

02/14/2012 47-033-04880 **F** 

# State of West Virginia Division of Environmental Protection Section of Oil and Gas Well Operator's Report of Well Work

Farm name:

**EAST RESOURCES** 

Operator Well No.: HIRAM LYNCH 115

LOCATION:

**OPEN FLOW DATA** 

Elevation:

Ouadrangle:

**WOLF SUMMIT 7.5'** 

District:

TEN MILE

1,002'

County: HARRISON

Latitude:

2,625 Feet south of

39 Deg 17 Min 30

Longitude:

7,875 Feet west of

80 Deg 27 Min

30 Sec.

Sec.

Company Address:	HG Energ 5260 DuP Parkersbu		Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Inspector:	Tristar	l Jenkins				
Date Permit Is	ssued:	02/14/2012				
Date Well Wo	ork Commenced:	03/18/2013				
Date Well Wo	ork Completed:	03/20/2013			•	
Verbal Pluggi	ng:					
Date Permissi	on Granted On:					
Rotary X	Cable	Rig	7"	418'	418'	existing
Total vertical	Depth (ft):	2720'			_	
Total Measure	ed Depth (ft):	2720'				
Fresh Water D	Depth (ft):	120'	4 ½"	2641.3'	2641.3'	existing
Salt Water De	pth (ft):	1540'			<b>, (</b> 3)	
Is Coal being	mined in ares (Y/N)	? No		Ś	SS.	·
Coal Depths (		None		ill du		
Void(s) encou	intered (Y/N) depth	(s):		is the	1013 et	chisting

Produc	ing formation	F	Fifth Sand	Pay zo	ngi septh (ft)	250 257	73.5'-2577.5'
Gas:	Initial open flow		* MCF/d	Oil: Initial open	Now	*	Bbl/d
•	Final open flow		* MCF/d	Final open	flow	*	Bbl/d
	Time of open flow	between	initial and fin	al tests	* H	lours	_
Static r	ock pressure	;	*psig (s	urface pressure)	after	*	_Hours

Second producing formation

Gas: Initial open flow
Final open flow

MCF/d

MCF/d

MCF/d

Final open flow

MCF/d

Final open flow

Bbl/d

Bbl/d

Time of open flow between initial and final tests
Static rock pressure psig (surface pressure)

\* Waterflood Injector

Hours Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

3/26/13 Data

Were	core samp	les taken?	No		Were cur	tings caught durin	g drilling? N	° 33.04880F
Were STIN THE	IULATING. I	PHYSICAL CHAN	IGE, ETC, 2).	THE WELL LOG V	Y/N DETAILS OF WHICH IS A COAL ENC	or Geophysical log PERFORATED INTE SYSTEMATIC DETAIL DUNTERED BY THE V	RVALS, FRACT	TURING OR CAL RECORD OF
Treat	ment :	Treated perfs & 6300 # 20/4			577.5' w/ 5	00 gals 15% HCL,	224 bbls cro	ss linked gel,
Well	Log:	See original v	well record					

01/25/2013 47-033-05053 **F** 

# State of West Virginia Division of Environmental Protection Section of Oil and Gas Well Operator's Report of Well Work

E.	rm	no	m	_	
ги	тт	пи	ш	е.	_

JUNKINS, EARL AND BELVA S.

Operator Well No.: HIRAM LYNCH 113

LOCATION:

Elevation:

1,080'

Quadrangle:

WOLF SUMMIT 7.5'

District:

**TEN MILE** 

County: HARRISON

Latitude:

3,320 Feet south of

39 Deg 17 Min 30 Sec.

Longitude:

8,445 Feet west of

80 Deg 27 Min 30 Sec.

Company Address:	HG Energ 5260 DuF Parkersbu		Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Inspector:	Trista	n Jenkins	_			
Date Permit Is	sued:	01/25/2013				
Date Well Wor	rk Commenced:	03/19/2013				
Date Well Wor	rk Completed:	03/20/2013				
Verbal Pluggir	ıg:					
Date Permission	on Granted On:					
Rotary X	Cable	Rig	7"	422'	422'	existing
Total vertical I	Depth (ft):	3122'				
Total Measure	d Depth (ft):	3122'				
Fresh Water D	epth (ft):	52', 390'	4 ½"	3074.25'	3074.25'	existing
Salt Water Dep	oth (ft):	None		neai	EWED	
Is Coal being r	nined in ares (Y/N	)? No			Oll & Ga	9
Coal Depths (f	t):	None	1			
Void(s) encour	ntered (Y/N) depth	(s):		APR 0	1 2013	
				WV Depa	artment o	f
			Ent	monmen	tal Protet	CION

### **OPEN FLOW DATA**

\* Waterflood Injector

	Sand Pay zone depth (ft) 2998'-3012'
Gas: Initial open flow *	MCF/d Oil: Initial open flow * Bbl/d
Final open flow *	MCF/d Final open flow * Bbl/d
Time of open flow between initia	al and final tests * Hours
Static rock pressure *	psig (surface pressure) after* Hours
Second producing formation	Pay zone depth (ft)
Gas: Initial open flow	MCF/d Oil: Initial open flow Bbl/d
Final open flow	MCF/d Final open flow Bbl/d
m· c a 1.	
Time of open flow between initia	

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

3/26/13 Date

Were	core samp	les taken?	No		Were cut	tings caught d	uring drilling?	No 33.05053 F
Were STIM THE	LILATING. F	PHYSICAL CHAN	IGE, ETC, 2), '	Mechanical, FOLLOWING: 1). D THE WELL LOG V DNS, INCLUDING TOTAL I	Y/N ETAILS OF WHICH IS AS	PERFORATED I	NTERVALS, FRA	ed on this well? ACTURING OR DGICAL RECORD OF FROM SURFACE TO
Treat	ment :	Treated perfs & 15,000# 20		w/ 500 gals 15 rop.	% HCL, 3	36 bbls cross l	inked gel,	
Well ]	Log:	See original v	well record					

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WR-35 Rev (9-11)

# State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	2/4/13
API#:	021-5753

District: DEKALB  Latitude: 10675' Feet South of 39 Deg. 0  Longitude 10250' Feet West of 80 Deg. 5	County: GILM			
Latitude: 10675' Feet South of 39 Deg. 0		1ED		<del></del>
	∪ Mir	1. 00 Se	<b>c</b> .	<del></del>
DATE A 1111 DEPTH 1 1 DE GOLT DEG				
Company: ROY G. HILDRETH AND SON, INC.		T	T = - : : : - : : : - : : - : : - : : - : : - : : - : : - : : - : : - : : - : : - : : - : : - : : - : : - : :	
Address: P. O. BOX 1007	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
SPENCER, WV 25276	7"	300'	300'	CTS
Agent: ROY G. HILDRETH	4 1/2"	2216'	2216'	TOP CEMENT 1342'
Inspector: JOE MCCOURT				130 CU FT
Date Permit Issued: 7/24/2012				
Date Well Work Commenced: 9/1/12				
Date Well Work Completed: 9/21/12				
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary Cable Rig				
Total Vertical Depth (ft): 2238'				
Total Measured Depth (ft): N/A				
Fresh Water Depth (ft.): N/A				
Salt Water Depth (ft.): N/A				
Is coal being mined in area (N/Y)? NO				
Coal Depths (ft.): N/A				
Void(s) encountered (N/Y) Depth(s) N/A				

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

2/14/13 Data

Were core samples taken? YesNo	Were cuttings caught during drilling? Yes X No
Were Electrical, Mechanical or Geophysical	logs recorded on this well? If yes, please list ELECTRICAL
FRACTURING OR STIMULATING, PE DETAILED GEOLOGICAL RECORD	T THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, TYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATION OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING BORE FROM SURFACE TO TOTAL DEPTH.
PLUG SET 1620'	WIER 2080' - 2083' (3 HOLES) PERF 1515' (1 HOLE)
PERF 1692'- 1713' (25 HOLES)	WIER 2132' (1 HOLE) PERF 1580' (1 HOLE)
PERF 1738' - 1741' (8 HOLES)	PERF 1407' - 1411' (5 HOLES)
PLUG SET 1770'	PERF 1435' - 1439' (5 HOLES)
PERF 1940' - 1942' (2 HOLES)	PERF 1466' (2 HOLES)
WIER 2040' - 2044' (5 HOLES)	PERF 1478' (1 HOLE)
Plug Back Details Including Plug Type and I	Pepth(s): FOAM FRAC 20000 LBS EACH 500 GAL ACID EACH
Formations Encountered: Surface:	Top Depth / Bottom Depth
SLATE & SHALE 0' - 1100'	INJUN 1856' - 1900'
SALT SAND 1100' - 1150'	SLATE & SHALE 1900' - 2020'
SLATE & SHALE 1150' - 1210'	WIER 2020' - 2145'
SALT SAND 1210' - 1260'	SLATE & SHALE 2145' - 2238'
SLATE & SHALE 1260' - 1280'	
SALT SAND 1280' - 1320'	
SLATE & SHALE 1320' - 1380'	
SALT SAND 1380' - 1489'	
SLATE & SHALE 1489' - 1510'	
LIME 1510' - 1530'	
SLATE & SHALE 1530' - 1670'	
MAXON 1670' - 1710'	·
LIME 1710' - 1740'	
SLATE & SHALE 1740' - 1760'	
BIG LIME 1760' - 1856'	F. W. BELL #9